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(FILE 'HOME' ENTERED AT 12:11:19 ON 17 SEP 2004)

FILE 'HCAPLUS' ENTERED AT 12:11:26 ON 17 SEP 2004

E COSFORD N/AU
L1 51 E4-9
E MCDONALD I/AU
L2 171 E3-5,E16-19
E HESS S/AU
L3 152 E3,E5,E46-49
E VARNEY M/AU
L4 49 E3-4,E8-10
L5 30930 (SIBIA OR MERCK)/CS,PA
L6 34 L1-4 AND EXCIT?
L7 7 L6 AND AMINO (1A) ACID?

FILE 'REGISTRY' ENTERED AT 12:18:22 ON 17 SEP 2004

FILE 'HCAPLUS' ENTERED AT 12:18:35 ON 17 SEP 2004

L8 TRA L7 1- RN : 351 TERMS

FILE 'REGISTRY' ENTERED AT 12:18:36 ON 17 SEP 2004

L9 351 SEA L8
L10 99 (NCSC2 OR NSC3)/ES AND L9

FILE 'STNGUIDE' ENTERED AT 12:21:06 ON 17 SEP 2004

=> b hcap

FILE 'HCAPLUS' ENTERED AT 12:22:22 ON 17 SEP 2004

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FILE COVERS 1907 - 17 Sep 2004 VOL 141 ISS 13

FILE LAST UPDATED: 16 Sep 2004 (20040916/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L7 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:775879 HCAPLUS
DN 140:23399
ED Entered STN: 03 Oct 2003
TI Pharmacological characterization and identification of amino acids involved in the positive modulation of metabotropic glutamate receptor subtype 2
AU Schaffhauser, Herve; Rowe, Blake A.; Morales, Sylvia; Chavez-Noriega, Laura E.; Yin, Ruoyuan; Jachec, Christine; Rao, Sara P.; Bain, Gretchen; Pinkerton, Anthony B.; Vernier, Jean-Michel; Bristow, Linda J.; Varney, Mark A.; Daggett, Lorrie P.
CS Merck Research Laboratories, San Diego, CA, USA
SO Molecular Pharmacology (2003), 64(4), 798-810
CODEN: MOPMA3; ISSN: 0026-895X
PB American Society for Pharmacology and Experimental Therapeutics
DT Journal
LA English
CC 2-2 (Mammalian Hormones)
AB In the present study, the authors describe the characterization of a pos. allosteric modulator at metabotropic glutamate subtype 2 receptors (mGluR2). N-4-(2-methoxyphenoxy)-phenyl-N-(2,2,2-trifluoroethylsulfonyl)-pyrid-3-ylmethylamine (LY 487379) is a selective pos. allosteric modulator

Searched by Noble Jarrell

- at human mGluR2 and is without activity at human mGluR3. Furthermore, LY 487379 has no intrinsic agonist or antagonist activity at hmGluR2, as determined by functional guanosine 5'-(γ -[35S]thio)triphosphate ([35S]GTP. γ .S) binding, single-cell Ca²⁺ imaging, and electrophysiol. studies. However, LY 487379 markedly potentiated glutamate-stimulated [35S]GTP. γ .S binding in a concentration-dependent manner at hmGluR2, shifting the glutamate dose-response curve leftward by 3-fold and increasing the maximum levels of [35S]GTP. γ .S stimulation. This effect of LY 487479 was also observed to a greater extent on the concentration-response curves to selective hmGluR2/3 agonists. In radioligand binding studies to rat cortical membranes, LY 487379 increased the affinity of the radiolabeled agonist, [3H]DCG-IV, without affecting the binding affinity of the radio-labeled antagonist, [3H]LY341495. In rat hippocampal slices, coapplication of LY 487379 potentiated synaptically evoked mGluR2 responses. Finally, to elucidate the site of action, the authors systematically exchanged segments and single amino acids between hmGluR2 and hmGluR3. Substitution of Ser 688 and/or Gly 689 in transmembrane IV along with Asn 735 located in transmembrane segment V, with the homologous amino acids of hmGluR3, completely eliminated LY487379 allosteric modulation of hmGluR2. The authors propose that this allosteric binding site defines a pocket that is different from the orthosteric site located in the N-terminal domain.
- ST metabotropic glutamate receptor 2 allosteric modulation signaling structure; glutamate mGluR2 receptor allosteric modulation signaling structure
- IT Structure-activity relationship
(allosteric modulation-affecting; pharmacol. characterization and identification of amino acids involved in pos. modulation of metabotropic glutamate receptor subtype 2)
- IT Brain
(cerebral cortex; pharmacol. characterization and identification of amino acids involved in pos. modulation of metabotropic glutamate receptor subtype 2)
- IT Brain
(dentate gyrus; pharmacol. characterization and identification of amino acids involved in pos. modulation of metabotropic glutamate receptor subtype 2)
- IT Neurotransmission
(glutamatergic, excitatory; pharmacol. characterization and identification of amino acids involved in pos. modulation of metabotropic glutamate receptor subtype 2)
- IT Brain
(hippocampus; pharmacol. characterization and identification of amino acids involved in pos. modulation of metabotropic glutamate receptor subtype 2)
- IT Phosphatidylinositols
RL: BSU (Biological study, unclassified); BIOL (Biological study) (hydrolysis; pharmacol. characterization and identification of amino acids involved in pos. modulation of metabotropic glutamate receptor subtype 2)
- IT Glutamate receptors
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(metabotropic, group II; pharmacol. characterization and identification of amino acids involved in pos. modulation of metabotropic glutamate receptor subtype 2)
- IT Glutamate receptors
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(metabotropic, mGluR2; pharmacol. characterization and identification of amino acids involved in pos. modulation of metabotropic glutamate receptor subtype 2)
- IT Brain
(perforant pathway; pharmacol. characterization and identification of amino acids involved in pos. modulation of metabotropic glutamate receptor subtype 2)
- IT Allostereism
Cell membrane
Human
Signal transduction, biological
(pharmacol. characterization and identification of amino acids involved in pos. modulation of metabotropic glutamate receptor subtype 2)
- IT G proteins (guanine nucleotide-binding proteins)
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pharmacol. characterization and identification of amino

- acids involved in pos. modulation of metabotropic glutamate receptor subtype 2)
- IT Structure-activity relationship
(signal-transducing; pharmacol. characterization and identification of amino acids involved in pos. modulation of metabotropic glutamate receptor subtype 2)
- IT Protein motifs
(transmembrane domain; pharmacol. characterization and identification of amino acids involved in pos. modulation of metabotropic glutamate receptor subtype 2)
- IT 56-45-1, Serine, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study) (mGluR2 receptor transmembrane IV residue 688; pharmacol. characterization and identification of amino acids involved in pos. modulation of metabotropic glutamate receptor subtype 2)
- IT 56-40-6, Glycine, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study) (mGluR2 receptor transmembrane IV residue 689; pharmacol. characterization and identification of amino acids involved in pos. modulation of metabotropic glutamate receptor subtype 2)
- IT 70-47-3, Asparagine, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study) (mGluR2 receptor transmembrane V residue 735; pharmacol. characterization and identification of amino acids involved in pos. modulation of metabotropic glutamate receptor subtype 2)
- IT 56-86-0, Glutamic acid, biological studies 86-01-1, 5'-GTP 7440-70-2, Calcium, biological studies 15421-51-9, Inositol monophosphate 117857-93-9, LCCG-I 147782-19-2, DCG-IV 353231-17-1, LY 487379.
RL: BSU (Biological study, unclassified); BIOL (Biological study) (pharmacol. characterization and identification of amino acids involved in pos. modulation of metabotropic glutamate receptor subtype 2)

RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

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L7 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2003:222367 HCAPLUS
 DN 138:238175
 ED Entered STN: 21 Mar 2003
 TI Preparation of heterocyclic compounds as metabotropic glutamate receptor 5 (mGluR5) modulators
 IN Cosford, Nicholas David Peter; Bleicher, Leo Solomon; Vernier, Jean-Michel Andre; Cube, Rowena V.; Schweiger, Edwin J.; McDonald, Ian
 PA Merck & Co., Inc., USA
 SO U.S. Pat. Appl. Publ., 20 pp., Cont.-in-part of U.S. Ser. No. 387,073, abandoned.
 CODEN: USXXCO
 DT Patent
 LA English
 IC ICM C07D279-12
 ICS C07D241-02
 NCL 544059000; 544336000; 544063000; 534751000
 CC 28-7 (Heterocyclic Compounds (More Than One Hetero Atom))
 Section cross-reference(s): 1

FAN.CNT 2

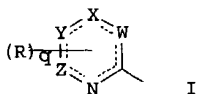
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003055247	A1	20030320	US 2002-217800	20020813
	US 6774138	B2	20040810		
PRAI	US 1999-387073	B2	19990831		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2003055247	ICM	C07D279-12
	ICS	C07D241-02
	NCL	544059000; 544336000; 544063000; 534751000
US 2003055247	ECLA	C07D213/16; C07D213/30B; C07D239/26B; C07D241/12C; C07D249/08; C07D263/32; C07D271/06B; C07D077/22C; C07D277/24; C07D277/40; C07D285/00B3; C07D333/08

OS MARPAT 138:238175

GI



AB The title compds. with general formula of A-L-B [wherein A = 5-7 membered ring I (where at least one of W, X, Y, and Z = (CR)_p; p = 0-2; and the remainder of W, X, Y, and Z = independently O, N, S; R = halo, SH, NO₂, CO₂H, carbamate, carboxamide, OH, ester, CN, NH₂, amide, amidine, amido, SO₂, (un)substituted hydrocarbyl, aryl, or heterocyclyl); q = 0-3; L = (un)substituted alkenylene, alkynylene, or azo; B = (un)substituted (cyclo)hydrocarbyl, heterocyclyl, or aryl] and enantiomers, diastereomers, mixts., or their pharmaceutically acceptable salts thereof, which are capable of modulating the activity of **excitatory amino acid receptors** such as metabotropic glutamate receptor, are prepared Thus, reacting 2-bromo-1,3-thiazole with phenylacetylene in the presence of CuI, Et₃N, and PdCl₂(PPh₃)₂ in DME, followed by treatment of the resulting 2-(phenylethynyl)-1,3-thiazole with p-TsOH afforded 2-(phenylethynyl)-1,3-thiazole, p-TsOH salt.

ST heterocycle thiazole prepn metabotropic glutamate receptor modulator analgesic

IT Amino acid receptors

RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (excitatory; preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

IT Glutamate receptors

RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (metabotropic; preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

IT 329202-67-7P 329202-70-2P 329202-84-8P

RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP

(Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

IT 329202-19-9P 329202-20-2P 329202-23-5P 329202-24-6P 329202-25-7P
329202-26-8P 329202-27-9P 329202-28-0P 329202-29-1P 329202-30-4P
329202-31-5P 329202-32-6P 329202-33-7P 329202-34-8P 329202-35-9P
329202-36-0P 329202-37-1P 329202-38-2P 329202-40-6P 329202-42-8P
329202-44-0P 329202-46-2P 329202-48-4P 329202-50-8P 329202-52-0P
329202-54-2P 329202-56-4P 329202-58-6P 329202-61-1P 329202-64-4P
329202-73-5P 329202-79-1P 329202-80-4P 329202-83-7P 329202-87-1P
329202-90-6P 329205-94-9P 329205-96-1P 329205-98-3P 329206-00-0P
329206-02-2P 329206-04-4P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
(Uses)

(preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

IT 78-93-3, 2-Butanone, reactions 108-50-9, 2,6-Dimethylpyrazine
115-19-5, 2-Methyl-3-butyne-2-ol 456-48-4, 3-Fluorobenzaldehyde
464-49-3 497-38-1, Norcamphor 502-42-1, Cycloheptanone 502-49-8,
Cyclooctanone 536-74-3, Phenylacetylene 589-92-4, 4-
Methylcyclohexanone 626-55-1, 3-Bromopyridine 627-19-0, 1-Pentyne
627-41-8, Methyl propargyl ether 917-92-0, 3,3-Dimethyl-1-butyne
931-48-6, Cyclohexylethyne 931-49-7, 1-Ethynylcyclohexene 1066-54-2,
Trimethylsilylacetylene 1072-72-6, Tetrahydrothiopyran-4-one
1757-42-2, 3-Methylcyclopentanone 1945-84-2, 2-Ethynylpyridine
2320-30-1, 3,5-Dimethylcyclohexanone 2816-57-1, 2,6-
Dimethylcyclohexanone 3034-48-8, 2-Bromo-5-nitro-1,3-thiazole
3034-53-5, 2-Bromo-1,3-thiazole 5315-25-3, 2-Bromo-6-methylpyridine
13223-25-1, 2-Chloro-4,6-dimethoxypyrimidine 13368-65-5 14376-79-5,
3,3,5,5-Tetramethylcyclohexanone 17356-19-3, 1-Ethynylcyclopentanol
17715-00-3, 3-Cyclohexyl-1-propyne 29943-42-8, Tetrahydro-4H-pyran-4-one
74115-12-1, 5-Chloro-3-pyridinol 111196-81-7, 2-Chloro-5-ethylpyrimidine

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

IT 2510-23-8P 24202-80-0P 150145-19-0P 329202-21-3P 329202-22-4P
329202-76-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

(preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L7 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:396348 HCAPLUS

DN 137:319825

ED Entered STN: 28 May 2002

TI Metabotropic glutamate receptor involvement in models of acute and
persistent pain: Prospects for the development of novel analgesics

AU Varney, M. A.; Gereau, R. W., IV

CS Merck Research Labs - San Diego, San Diego, CA, 92121, USA

SO Current Drug Targets: CNS & Neurological Disorders (2002), 1(3), 283-296

CODEN: CDTCCC; ISSN: 1568-007X

PB Bentham Science Publishers Ltd.

DT Journal; General Review

LA English

CC 1-0 (Pharmacology)

AB

A review. The excitatory amino acid glutamate plays a major role in nociceptive processing. Ionotropic and metabotropic glutamate receptors are expressed in relevant areas of the brain, spinal cord and periphery that are involved in pain sensation and transmission. Activation of mGlu receptors along the pain neuraxis can result in either pro-nociceptive or antinociceptive behaviors depending on the subtype of mGluR and its location. The data published to date most strongly support the idea that mGlu1 antagonists might act as

broad-spectrum analgesics. Several studies pointing to a functional upregulation of mGlu2/3 in chronic pain models suggest that agonists of these receptors might also be effective analgesics in certain conditions, most notably inflammation-induced hyperalgesia and allodynia. The expression of mGluRs throughout the pain neuraxis and the differing roles of the mGluRs in each of these regions makes it difficult to predict the efficacy of mGluR ligands based on in vitro or local administration studies. Potent, systemically active compds. that show mGluR subtype selectivity will be critical to undertake more detailed analyses in animal models of pain.

ST review metabotropic glutamate receptor analgesic drug target

IT Analgesics

Pain

(metabotropic glutamate receptor and development of analgesics)

IT Glutamate receptors

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(metabotropic; metabotropic glutamate receptor and development of analgesics)

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RE

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 AN 2001:167983 HCAPLUS
 DN 134:222706
 ED Entered STN: 09 Mar 2001
 TI Preparation of heterocyclic compounds as metabotropic glutamate receptor 5 (mGluR5) modulators
 IN Cosford, Nicholas D. P.; McDonald, Ian A.; Bleicher, Leo Solomon; Cube, Rowena V.; Schweiger, Edwin J.; Vernier, Jean-Michel; Hess, Stephen D.; Varney, Mark A.; Munoz, Benito
 PA Merck & Co., Inc., USA
 SO PCT Int. Appl., 132 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C07D277-22
 ICS C07D277-24; C07D277-40; C07D213-16; C07D213-30; C07D239-26; C07D263-32; C07D271-06; C07D241-12; C07D249-08; C07D285-00; C07D333-08; C07D417-06; C07D409-06; C07D407-06
 CC 28-7 (Heterocyclic Compounds (More Than One Hetero Atom))
 Section cross-reference(s): 1

FAN.CNT 2

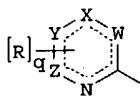
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001016121	A1	20010308	WO 2000-US23923	20000831
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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1214303	A1	20020619	EP 2000-957932	20000831
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003508390	T2	20030304	JP 2001-519688	20000831
PRAI US 1999-387073	A2	19990831		
US 1999-387135	A2	19990831		
WO 2000-US23923	W	20000831		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2001016121	ICM	C07D277-22
	ICS	C07D277-24; C07D277-40; C07D213-16; C07D213-30; C07D239-26; C07D263-32; C07D271-06; C07D241-12; C07D249-08; C07D285-00; C07D333-08; C07D417-06; C07D409-06; C07D407-06

OS MARPAT 134:222706

GI



I.

AB The title compds. I [ALB; A = 5-7 membered ring II (wherein at least one of W, X, Y and Z = (CR)_p; p = 0-2, and the remainder of W, X, Y and Z = O, N, S; R = halo, (un)substituted aryl, heterocyclyl, etc.); L = (un)substituted alkenylene, alkynylene, azo; B = (un)substituted alkyl, cycloalkyl, heterocyclyl, etc.] and their pharmaceutically acceptable salts which are capable of modulating the activity of excitatory amino acid receptors such as metabotropic glutamate receptor, were prepared Thus, reacting 2-bromo-1,3-thiazole with phenylacetylene in the presence of CuI, Et₃N and PdCl₂(PPh₃)₂ in DME followed by treatment of the resulting 2-(phenylethynyl)-1,3-thiazole with p-TsOH afforded 2-(phenylethynyl)-1,3-thiazole, p-TsOH salt which showed IC₅₀ of 0.1 nM - 10 .mu.M in Ca²⁺ flux assay and analgesic efficacy in analgesic animal model (CFA model).

ST heterocycle prepn metabotropic glutamate receptor modulator analgesic

IT Glutamate receptors
 RL: BSU (Biological study, unclassified); MSC (Miscellaneous); BIOL (Biological study)
 (metabotropic, mGluR5; preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

IT Analgesics
 (preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

IT 329202-67-7P 329202-70-2P 329202-84-8P 329203-16-9P 329203-45-4P
 329203-62-5P 329204-13-9P 329204-29-7P 329204-39-9P 329204-47-9P
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 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

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 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

IT 70-23-5, Ethyl bromopyruvate 78-93-3, 2-Butanone, reactions 78-95-5, Chloroacetone 83-33-0, 1-Indanone 92-66-0, 4-Bromobiphenyl 98-80-6, Phenylboronic acid 100-58-3, Phenylmagnesium bromide 107-19-7, Propargyl alcohol 108-50-9, 2,6-Dimethylpyrazine 108-79-2, 4,6-Dimethyl-2-hydroxypyrimidine 109-01-3, 1-Methylpiperazine 110-89-4, Piperidine, reactions 115-19-5, 2-Methyl-3-butyne-2-ol 118-92-3, Anthranilic acid 120-72-9, Indole, reactions 126-81-8, 5,5-Dimethyl-1,3-cyclohexanedione 141-30-0, 3,6-Dichloropyridazine 352-13-6, 4-Fluorophenylmagnesium bromide 456-48-4, 3-Fluorobenzaldehyde 464-49-3 497-38-1, Norcamphor 502-42-1, Cycloheptanone 502-49-8,

Cyclooctanone 529-34-0, .alpha.-Tetralone 530-93-8, .beta.-Tetralone 536-74-3, Phenylacetylene 585-36-4, 3-Trifluoromethylcyclohexanone 589-92-4, 4-Methylcyclohexanone 615-13-4, 2-Indanone 621-79-4, Cinnamamide 622-31-1, syn-Benzaldehyde oxime 623-49-4, Ethyl cyanoformate 624-28-2, 2,5-Dibromopyridine 625-92-3, 3,5-Dibromopyridine 626-55-1, 3-Bromopyridine 627-19-0, 1-Pentyne 627-41-8, Methyl propargyl ether 693-95-8, 4-Methylthiazole 766-49-4, Benzene, 1-ethynyl-2-fluoro- 766-82-5, Benzene, 1-ethynyl-3-methyl 766-98-3, 1-Ethynyl-4-fluorobenzene 917-92-0, 3,3-Dimethyl-1-butyne 931-48-6, Cyclohexylethyne 931-49-7, 1-Ethynylcyclohexene 1066-54-2, Trimethylsilylacetylene 1072-72-6, Tetrahydrothiopyran-4-one 1080-32-6, Diethylbenzyl phosphonate 1193-18-6, 3-Methyl-2-cyclohexen-1-one 1532-97-4, 4-Bromoisquinoline 1679-18-1, 4-Chlorophenylboronic acid 1692-15-5, Pyridine-4-boronic acid 1692-25-7, Pyridine-3-boronic acid 1757-42-2, 3-Methylcyclopentanone 1945-84-2, 2-Ethynylpyridine 2320-30-1, 3,5-Dimethylcyclohexanone 2816-57-1, 2,6-Dimethylcyclohexanone 3034-48-8, 2-Bromo-5-nitro-1,3-thiazole 3034-53-5, 2-Bromo-1,3-thiazole 3581-91-7, 4,5-Dimethyl-1,3-thiazole 4175-77-3, 2,4-Dibromo-1,3-thiazole 4341-24-6, 5-Methyl-1,3-cyclohexanedione 4360-47-8, Cinnamionitrile 4526-06-1 4595-59-9, 5-Bromopyrimidine 4595-60-2, 2-Bromopyrimidine 4637-24-5 4832-17-1, 2-Decalone 5315-25-3, 2-Bromo-6-methylpyridine 5323-87-5, 3-Ethoxy-2-cyclohexen-1-one 5720-07-0, 4-Methoxyphenylboronic acid 5927-18-4, Trimethylphosphonoacetate 6622-92-0, 2,4-Dimethyl-6-hydroxypyrimidine 6651-36-1 6672-30-6 7214-52-0, cis-3,5-Dimethylcyclohexanone 10472-24-9, Methyl 2-oxocyclopentanecarboxylate 13139-86-1, 4-Anisylmagnesium bromide 13223-25-1, 2-Chloro-4,6-dimethoxypyrimidine 13368-65-5 13472-85-0, 5-Bromo-2-methoxypyridine 13575-75-2, 6,7-Dimethoxy-1-tetralone 14376-79-5, 3,3,5,5-Tetramethylcyclohexanone 14630-40-1, Bis(trimethylsilyl)acetylene 16114-47-9, 3,5-Dimethyl-4-isoxazolyboronic acid 16494-36-3, 2-Iodo-5-methylthiophene 16982-21-1, Ethyl thiooxamate 17356-19-3, 1-Ethynylcyclopentanol 17715-00-3, 3-Cyclohexyl-1-propyne 18871-66-4, N,N-Dimethylacetamide dimethylacetal 19550-72-2, cis-3,4-Dimethylcyclopentanone 20826-04-4, 5-Bromonicotinic acid 23380-78-1 29943-42-8, Tetrahydro-4H-pyran-4-one 32111-21-0, 2-Iodopyrazine 32499-64-2 34259-99-9, 4-Bromo-1,3-thiazole 35590-37-5, 5-Bromonicotinonitrile 38945-21-0, O-Allylhydroxylamine hydrochloride 52482-10-7 54390-97-5, 5-Bromoisothiazole 58372-16-0 69045-79-0, 2-Chloro-5-iodopyridine 74115-12-1, 5-Chloro-3-pyridinol 81166-84-9, Cyclopropyl trimethylsilylacetylene 89878-14-8, Diethyl(3-pyridyl)borane 109299-78-7, (5-Pyrimidinyl)boronic acid 111196-81-7, 2-Chloro-5-ethylpyrimidine 223425-52-3 329206-68-0

RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

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RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

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AN 1999:335459 HCAPLUS
 DN 131:125342
 ED Entered STN: 02 Jun 1999
 TI (R,S)-4-phosphonophenylglycine, a potent and selective group III metabotropic glutamate receptor agonist, is anticonvulsive and neuroprotective in vivo
 AU Gasparini, F.; Bruno, V.; Battaglia, G.; Lukic, S.; Leonhardt, T.; Inderbitzin, W.; Laurie, D.; Sommer, B.; Varney, M. A.; Hess, S. D.; Johnson, E. C.; Kuhn, R.; Urwyler, S.; Sauer, D.; Portet, C.; Schmutz, M.; Nicoletti, F.; Flor, P. J.
 CS Nervous System Research, Novartis Pharma AG, Basel, Switz.
 SO Journal of Pharmacology and Experimental Therapeutics (1999), 289(3), 1678-1687
 CODEN: JPETAB; ISSN: 0022-3565
 PB American Society for Pharmacology and Experimental Therapeutics
 DT Journal
 LA English
 CC 1-11 (Pharmacology)
 Section cross-reference(s): 34
 AB Group III metabotropic glutamate receptors (mGluRs) are thought to modulate neurotoxicity of excitatory amino acids, via mechanisms of presynaptic inhibition, such as regulation of neurotransmitter release. Here, we describe (R,S)-4-phosphonophenylglycine (PPG) as a novel, potent, and selective agonist for group III mGluRs. In recombinant cell lines expressing the human receptors hmGluR4a, hmGluR6, hmGluR7b, or hmGluR8a, EC50 values for (R,S)-PPG of 5.2+-0.7 .mu.M, 4.7+-0.9 .mu.M, 185+-42 .mu.M, and 0.2+-0.1 .mu.M, resp., were measured. The compound showed EC50 and IC50 values of .gtoreq.200 .mu.M at group I and II hmGluRs and was inactive at cloned human N-methyl-D-aspartate, .alpha.-amino-3-hydroxy-5-methyl-isoxazole-4-propionate, and kainate receptors (>300 .mu.M). On the other hand, it showed micromolar affinity for a Ca2+/Cl--dependent L-glutamate binding site in rat brain, similar to other phosphono-substituted amino acids like L-2-amino-4-phosphonobutyrate. In cultured cortical neurons, (R,S)-PPG provided protection against a toxic pulse of N-methyl-D-aspartate (EC50 = 12 .mu.M), which was reversed by the group III mGluR antagonist (R,S)-.alpha.-methylserine-O-phosphate but not by the group II antagonist (2S)-.alpha.-ethylglutamate. Moreover, (R,S)-PPG protected against N-methyl-D-aspartate- and quinolinic acid-induced striatal lesions in rats and was anticonvulsive in the maximal electroshock model in mice. In contrast to the group III mGluR agonists L-2-amino-4-phosphonobutyrate and L-serine-O-phosphate, (R,S)-PPG showed no proconvulsive effects (2200 nmol i.c.v.). These data provide novel in vivo evidence for group III mGluRs as attractive targets for neuroprotective and anticonvulsive therapy. Also, (R,S)-PPG represents an attractive tool to analyze the roles of group III mGluRs in nervous system physiol. and pathol.
 ST phosphonophenylglycine metabotropic glutamate receptor agonist anticonvulsive neuroprotective
 IT Anticonvulsants
 ((R,S)-4-phosphonophenylglycine anticonvulsive and neuroprotective activity, and relation to group III metabotropic glutamate receptors)
 IT Glutamate receptors
 RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
 (metabotropic, inhibitors; (R,S)-4-phosphonophenylglycine anticonvulsive and neuroprotective activity, and relation to group III metabotropic glutamate receptors)
 IT Cytoprotective agents
 (neuroprotectants; (R,S)-4-phosphonophenylglycine anticonvulsive and neuroprotective activity, and relation to group III metabotropic glutamate receptors)
 IT Toxicity
 (neurotoxicity; (R,S)-4-phosphonophenylglycine anticonvulsive and neuroprotective activity, and relation to group III metabotropic glutamate receptors)
 IT 120667-15-4P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
 ((R,S)-4-phosphonophenylglycine anticonvulsive and neuroprotective activity, and relation to group III metabotropic glutamate receptors)
 IT 123-08-0, 4-Hydroxybenzaldehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction; (R,S)-4-phosphonophenylglycine anticonvulsive and neuroprotective activity, and relation to group III metabotropic

glutamate receptors)

RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L7 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1993:531539 HCAPLUS

DN 119:131539

ED Entered STN: 02 Oct 1993

TI Potentiation of NMDA antagonists with probenecid

IN McDonald, Ian A.; Baron, Bruce M.

PA Merrell Dow Pharmaceuticals, Inc., USA

SO PCT Int. Appl., 26 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K031-19

ICS A61K031-405; A61K031-445; A61K031-66

CC 1-11 (Pharmacology)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9312780	A1	19930708	WO 1992-US10354	19921201
W: AU, CA, JP, KR, NZ				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5318985	A	19940607	US 1991-811204	19911220
AU 9331509	A1	19930728	AU 1993-31509	19921201
AU 667333	B2	19960321		
EP 617616	A1	19941005	EP 1992-925469	19921201
EP 617616	B1	19991027		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 07504890	T2	19950601	JP 1992-511664	19921201
AT 185969	E	19991115	AT 1992-925469	19921201
US 5489579	A	19960206	US 1994-191996	19940204
PRAI US 1991-811204		19911220		
WO 1992-US10354		19921201		

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CLASS
PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

WO 9312780 ICM A61K031-19
ICS A61K031-405; A61K031-445; A61K031-66

OS MARPAT 119:131539

AB Probenecid potentiates the therapeutic activity of known antagonists of NMDA receptor-excitatory amino acids. The antagonists comprise 4 classes of compds. (Markush structures given), such as carboxyindoles, phosphonates and carboxypiperidines. The compns. comprising probenecid and the antagonists are useful for the treatment of epilepsy, neurodegenerative diseases, anxiety, etc. Probenecid potentiated the ability of (R)-4-oxo-5-phosphononorvaline to inhibit quinolinic acid-induced clonic seizures in mice.

ST NMDA antagonist probenecid antiepileptic; neurodegenerative disease drug
NMDA antagonist probenecid

IT Neurotransmitter antagonists
(excitatory amino acid/NMDA, probenecid potentiation of)

IT Nervous system agents
(for treatment of neurodegenerative diseases, compns. containing probenecid with antagonist of NMDA receptor-excitatory amino acids)

IT Analgesics
Anticonvulsants and Antiepileptics
Anxiolytics
(probenecid mixts. with antagonist of NMDA receptor-excitatory amino acids)

IT Brain, disease
(ischemia, treatment of, with compns. containing probenecid and antagonist of NMDA receptor-excitatory amino acids)

IT 149890-43-7 149890-44-8
RL: BIOL (Biological study)
(antiepileptic)

IT 57-66-9D, Probenecid, mixture with antagonists of NMDA receptor-excitatory amino acids
RL: BIOL (Biological study)
(epilepsy and neurodegenerative diseases treatment by)

L7 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1991:17877 HCAPLUS

DN 114:17877

ED Entered STN: 26 Jan 1991

TI Activity of 5,7-dichlorokynurenic acid, a potent antagonist at the N-methyl-D-aspartate receptor-associated glycine binding site

AU Baron, Bruce M.; Harrison, Boyd L.; Miller, Francis P.; McDonald, Ian A.; Salituro, Francesco G.; Schmidt, Christopher J.; Sorensen, Stephen M.; White, H. Steven; Palfreyman, Michael G.

CS Merrell Dow Res. Inst., Cincinnati, OH, 45215, USA

SO Molecular Pharmacology (1990), 38(4), 554-61
CODEN: MOPMA3; ISSN: 0026-895X

DT Journal

LA English

CC 2-8 (Mammalian Hormones)
Section cross-reference(s): 1

AB 5,7-Dichlorokynurenic acid (5,7-DCKA), one of the most potent excitatory amino acid receptor antagonists yet described, binds to a strychnine-insensitive glycine binding site located on the N-methyl-D-aspartate (NMDA) receptor complex ($K_i = 79$ nM vs. [3H]glycine). 5,7-DCKA (10 μ M) antagonized the ability of NMDA to stimulate the binding of the radiolabeled ion channel blocker N-[3H]-[1-(2-thienyl)cyclohexyl]-piperidine ([3]TCP). Glycine overcame this effect and in the presence of 5,7-DCKA enhanced [3H]TCP binding to antagonist-free levels. 5,7-DCKA completely and noncompetitively antagonized several NMDA receptor-mediated biochem. and electrophysiol. responses. Thus, micromolar concns., 5,7-DCKA inhibited: NMDA-stimulated elevation of cytosolic Ca in cultured hippocampal neurons, cGMP accumulation in cerebellar slices, and norepinephrine release from hippocampal slices. The glycine antagonist could also block the action of synaptically released agonist, as shown by its ability to inhibit the increase in the magnitude of the population spike that follows tetanic stimulation of the hippocampus in vitro (long term potentiation). Inclusion of glycine or D-serine prevented all these effects of the antagonist. 5,7-DCKA was a potent anticonvulsant when administered intracerebroventricularly to mice. As in the in vitro expts. the dose-response curve for the antagonist was shifted rightward in a parallel

fashion when D-serine was coinjected. This spectrum of activity displayed by a compound acting at the glycine binding site suggests that the therapeutic utility of glycine antagonists will be similar to those proposed for other types of glutamate receptor antagonists.

- ST chlorokynurenate methylaspartate receptor glycine; anticonvulsant chlorokynurenate glutamate receptor
- IT Anticonvulsants and Antiepileptics
(dichlorokynurenate as, methylaspartate receptors mediation of)
- IT Receptors
RL: BIOL (Biological study)
(for methylaspartate, of brain, dichlorokynurenate effect on)
- IT Brain, composition
(methylaspartate receptors of, dichlorokynurenate and glycine effect on)
- IT Receptors
RL: BIOL (Biological study)
(glutamatergic, of brain, glycine-binding site of, dichlorokynurenate effect on)
- IT Neurotransmission
(long-term potentiation, in hippocampus, dichlorokynurenate effect on)
- IT 7665-99-8, CGMP
RL: BIOL (Biological study)
(accumulation of, by cerebellum, dichlorokynurenate effect on)
- IT 131123-76-7
RL: BIOL (Biological study)
(methylaspartate receptor binding of glycine antagonism by)
- IT 56-40-6, Glycine, biological studies
RL: BIOL (Biological study)
(methylaspartate receptor binding of, dichlorokynurenate antagonism of)
- IT 51-41-2, Norepinephrine
RL: BIOL (Biological study)
(release of, by hippocampus, dichlorokynurenate and glycine effect on)
- IT 7440-70-2, Calcium, biological studies
RL: BIOL (Biological study)
(transport of, by hippocampus, dichlorokynurenate effect on)

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 DICTIONARY FILE UPDATES: 15 SEP 2004 HIGHEST RN 745743-57-1

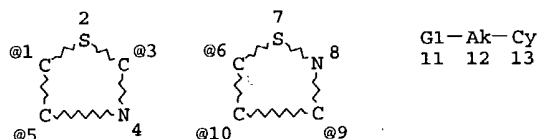
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 L19 STR



VAR G1=1/3/5/6/9/10
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 DEFAULT MLEVEL IS ATOM
 GGCAT IS UNS AT 12
 GGCAT IS UNS AT 13
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RSPEC 1 6
 NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE
 L27 14764 SEA FILE=HCAPLUS ABB=ON PLU=ON GLUTAMATE RECEPTORS/CT
 L28 2748 SEA FILE=HCAPLUS ABB=ON PLU=ON L27 (L) METABOTROPIC
 L29 878 SEA FILE=HCAPLUS ABB=ON PLU=ON RECEPTOR?/CW (L) GLUTAMATERGIC
 (L) METABOTROPIC
 L30 3573 SEA FILE=HCAPLUS ABB=ON PLU=ON (L28 OR L29)
 L31 217 SEA FILE=HCAPLUS ABB=ON PLU=ON GLUTAMATE AGONISTS/CT
 L32 172 SEA FILE=HCAPLUS ABB=ON PLU=ON NEUROTRANSMITTER AGONISTS+NT/C
 T (L) GLUTAMATERGIC
 L33 1887 SEA FILE=HCAPLUS ABB=ON PLU=ON GLUTAMATE ANTAGONISTS/CT
 L34 28926 SEA FILE=HCAPLUS ABB=ON PLU=ON NEUROTRANSMITTER ANTAGONISTS+N
 T/CT
 L35 1183 SEA FILE=HCAPLUS ABB=ON PLU=ON L34 (L) (GLUTAMATERGIC OR
 METHYL (1A) ASPARTATE)
 L36 6600 SEA FILE=HCAPLUS ABB=ON PLU=ON L30 OR L31 OR L32 OR L33 OR
 L35
 L37 TRANSFER PLU=ON L36 1- RN : 51196 TERMS (TERM LIMIT E
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 L38 51196 SEA FILE=REGISTRY ABB=ON PLU=ON L37
 L39 TRANSFER PLU=ON L36 3878-6600 RN : 19902 TERMS
 L40 19902 SEA FILE=REGISTRY ABB=ON PLU=ON L39
 L41 67567 SEA FILE=REGISTRY ABB=ON PLU=ON L38 OR L40
 L43 111 SEA FILE=REGISTRY SUB=L41 SSS FUL L19

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 SEARCH TIME: 00.00.01

111 ANSWERS

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L1 E COSFORD N/AU
51 E4-9
L2 E MCDONALD I/AU
171 E3-5, E16-19
E HESS S/AU
L3 152 E3, E5, E46-49
E VARNEY M/AU
L4 49 E3-4, E8-10
L5 30930 (SIBIA OR MERCK)/CS, PA
L6 34 L1-4 AND EXCIT?
L7 7 L6 AND AMINO (1A) ACID?

FILE 'REGISTRY' ENTERED AT 12:18:22 ON 17 SEP 2004

FILE 'HCAPLUS' ENTERED AT 12:18:35 ON 17 SEP 2004

L8 TRA L7 1- RN : 351 TERMS

FILE 'REGISTRY' ENTERED AT 12:18:36 ON 17 SEP 2004

L9 351 SEA L8
L10 99 (NCSC2 OR NSC3)/ES AND L9
L11 STR
L12 50 L11
L13 613894 (NCSC2 OR NSC3)/ES
L14 50 L11 SAM SUB=L13
L15 0 ALKYNYLENE
L16 STR L11
L17 STR L16
L18 28 L17
L19 STR L11
L20 16 L19
L21 SCR 1839 AND 2021 AND 1992
L22 SCR 2039 OR 2050 OR 2048 OR 2053 OR 2052 OR 2043 OR 2054
L23 SCR 1645 AND 1783
L24 SCR 2103 AND 2106
L25 17 L19 AND L21 AND L23 OR L24 NOT L22
L26 20 L19 AND L21 AND L23 OR L24 NOT L22 SAM SUB=L13

FILE 'HCAPLUS' ENTERED AT 13:01:46 ON 17 SEP 2004

E METABOTROPIC/CT
E E4+ALL
E E2+ALL
E E7+ALL
L27 14764 GLUTAMATE RECEPTORS/CT
L28 2748 L27 (L) METABOTROPIC
E RECEPTORS/CT
L29 878 RECEPTOR?/CW (L) GLUTAMATERGIC (L) METABOTROPIC
L30 3573 L28-29
E GLUTAMATE AGONISTS/CT
E E3+ALL
L31 217 GLUTAMATE AGONISTS/CT
E NEUROTRANSMITTER AGONISTS/CT
E E3+ALL
L32 172 NEUROTRANSMITTER AGONISTS+NT/CT (L) GLUTAMATERGIC
E GLUTAMATE ANTAGONISTS/CT
E E3+ALL
L33 1887 GLUTAMATE ANTAGONISTS/CT
E NEUROTRANSMITTER ANTAGONISTS/CT
E E3+ALL
L34 28926 NEUROTRANSMITTER ANTAGONISTS+NT/CT
L35 1183 L34 (L) (GLUTAMATERGIC OR METHYL (1A) ASPARTATE)
L36 6600 L30 OR L31 OR L32 OR L33 OR L35

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FILE 'HCAPLUS' ENTERED AT 13:08:37 ON 17 SEP 2004

FILE 'REGISTRY' ENTERED AT 13:11:03 ON 17 SEP 2004

L37 TRA L36 1- RN : 51196 TERMS

FILE 'REGISTRY, REGISTRY' ENTERED AT 13:11:04 ON 17 SEP 2004

L38 51196 SEA L37

L39 FILE 'HCAPLUS' ENTERED AT 13:13:23 ON 17 SEP 2004
TRA L36 3878-6600 RN : 19902 TERMS

L40 FILE 'REGISTRY' ENTERED AT 13:14:50 ON 17 SEP 2004
19902 SEA L39
L41 67567 L38 OR L40
L42 5 L19 SAM SUB=L41
L43 111 L19 FULL SUB=L41
SAVE TEMP CHOI135F0/A L42
SAVE TEMP CHOI135F0/A L43

L44 FILE 'HCAPLUS' ENTERED AT 13:17:27 ON 17 SEP 2004
39 L43

L45 FILE 'HCAOLD' ENTERED AT 13:17:37 ON 17 SEP 2004
0 L43

L46 FILE 'HCAPLUS' ENTERED AT 13:17:45 ON 17 SEP 2004
121 L5 AND L36
L47 44 L1-4 AND L36
L48 7 L44 AND L1-5
L49 32 L44 NOT L48
L50 21 L49 AND (PY<=1999 OR AY<=1999 OR PRY<=1999 OR AD<19990831 OR PD
L51 2 L50 AND L36
L52 19 L50 NOT L51

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FILE LAST UPDATED: 16 Sep 2004 (20040916/ED)

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=> d all fhistr l48 tot

L48 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:523298 HCAPLUS
DN 141:133562
ED Entered STN: 30 Jun 2004
TI 5-[(2-Methyl-1,3-thiazol-4-yl)ethynyl]-2,3'-bipyridine: a highly potent, orally active metabotropic glutamate subtype 5 (mGlu5) receptor antagonist with anxiolytic activity
AU Roppe, Jeffrey R.; Wang, Bowei; Huang, Dehua; Tehrani, Lida; Kamenecka, Theodore; Schweiger, Edwin J.; Anderson, Jeffery J.; Brodtkin, Jesse; Jiang, Xiaohui; Cramer, Merryl; Chung, Janice; Reyes-Manalo, Grace; Munoz, Benito; Cosford, Nicholas D. P.
CS Department of Medicinal Chemistry, Merck Research Laboratories, San Diego, CA, 92121, USA
SO Bioorganic & Medicinal Chemistry Letters (2004), 14(15), 3993-3996
CODEN: BMCLE8; ISSN: 0960-894X
PB Elsevier Science B.V.
DT Journal
LA English
CC 1-3 (Pharmacology)
Section cross-reference(s): 28
AB Structure-activity relation studies leading to the discovery of a new, orally active mGlu5 receptor antagonist are described. The title compound, 5-[(2-methyl-1,3-thiazol-4-yl)ethynyl]-2,3'-bipyridine, is highly potent

Searched by Noble Jarrell

in vitro, has good in vivo receptor occupancy, and is efficacious in the rat fear-potentiated startle model of anxiety following oral dosing.

ST methylthiazolylbipyridine deriv mGlu5 antagonist anxiolytic; metabotropic glutamate antagonist ethynylbipyridine deriv

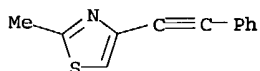
IT 329203-01-2P 329204-16-2P 329204-25-3P
329204-27-5P 329205-68-7P 497145-23-0P
497145-24-1P 722453-33-0P 727428-69-5P 727428-70-8P
727428-71-9P 727428-72-0P 727428-73-1P 727428-74-2P 727428-75-3P
727428-76-4P 727428-77-5P 727428-78-6P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation and structure activity relations of [(methylthiazolyl)ethynyl]bipyridines as potent, orally active metabotropic glutamate subtype 5 receptor antagonist with anxiolytic activity)

IT 329203-85-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation and structure activity relations of [(methylthiazolyl)ethynyl]bipyridines as potent, orally active metabotropic glutamate subtype 5 receptor antagonist with anxiolytic activity)

IT 69045-79-0P 329204-13-9P 329204-97-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and structure activity relations of [(methylthiazolyl)ethynyl]bipyridines as potent, orally active metabotropic glutamate subtype 5 receptor antagonist with anxiolytic activity)

IT 329203-01-2P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation and structure activity relations of [(methylthiazolyl)ethynyl]bipyridines as potent, orally active metabotropic glutamate subtype 5 receptor antagonist with anxiolytic activity)

RN 329203-01-2 HCAPLUS
CN Thiazole, 2-methyl-4-(phenylethynyl)- (9CI) (CA INDEX NAME)



L48 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:371151 HCAPLUS
DN 140:391275
ED Entered STN: 07 May 2004
TI Preparation of isotopically labeled heterocyclic alkyne derivatives as tracers for metabotropic glutamate receptor binding
IN Cosford, Nicholas David Peter; Govek, Steven Patrick; Hamill, Terence Gerard; Kamenecka, Theodore; Roppe, Jeffrey Roger; Seiders, Thomas Jonathan
PA Merck & Co., Inc., USA
SO PCT Int. Appl., 73 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G01N
CC 28-7 (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): 8

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004038374	A2	20040506	WO 2003-US33613	20031024
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,				

CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC,
 NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
 GW, ML, MR, NE, SN, TD, TG

PRAI US 2002-420809P P 20021024

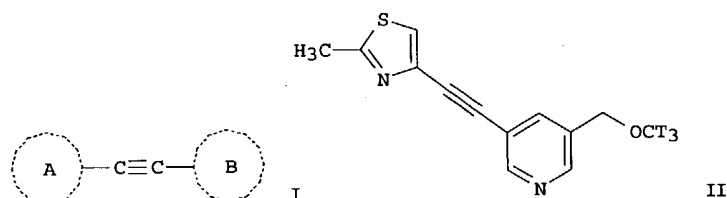
CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

WO 2004038374 ICM G01N

OS MARPAT 140:391275

GI



- AB The present invention is directed to isotopically labeled alkyne derivative compds. I (A = optionally substituted heterocycle; B = optionally substituted aryl, heterocycle, C3-20 cycloalkyl, C3-20 cycloalkynyl, C3-20 cycloalkadienyl, C3-20 cycloalkatrienyl, C3-2- cycloalkynyl, C3-20 cycloalkadiynyl; except when A = 6-methyl-2-pyridyl then B cannot = 3-MeOC6H4 or Ph) wherein the compound is isotopically labeled with at least one ¹¹C, ¹³C, ¹⁴C, ¹⁸F, ¹⁵O, ¹³N, ³⁵S, ²H, or ³H atom. In particular, the present invention is directed to ¹¹C, ¹³C, ¹⁴C, ¹⁸F, ¹⁵O, ¹³N, ³⁵S, ²H, and ³H labeled heterocyclic alkynes and methods of their preparation. The present invention further includes a method of use of the ¹¹C, ¹⁸F, ¹⁵O, or ¹³N labeled heterocyclic alkyne compds. as tracers in positron emission tomog. (PET) imaging, particularly in the study of metabolic conditions in mammals, specifically conditions modulated by metabotropic glutamate receptors subtype 5 (mGluR5). Thus, Pd-catalyzed coupling of (5-bromopyridin-3-yl)methanol (preparation given) with 2-methyl-4-(trimethylsilyl)ethynyl-1,3-thiazole, followed by methylation with ¹¹CH₃I gave tritiated heterocyclic alkyne II. II was tested for in vitro binding of mGlu5 receptor protein.
- ST isotopically labeled heterocyclic alkyne prepn; metabotropic glutamate receptor binding labeled heterocyclic alkyne prepn; positron emission tomog labeled heterocyclic alkyne prepn
- IT Alkynes
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (heterocyclic, isotopically labeled; preparation of isotopically labeled heterocyclic alkyne derivs. as tracers for metabotropic glutamate receptor binding)
- IT Glutamate receptors
 RL: BSU (Biological study, unclassified); BIOL (Biological study) (metabotropic; preparation of isotopically labeled heterocyclic alkyne derivs. as tracers for metabotropic glutamate receptor binding)
- IT Positron-emission tomography
 (preparation of isotopically labeled heterocyclic alkyne derivs. as tracers for metabotropic glutamate receptor binding)
- IT 686767-95-3P 686768-37-6P
 RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (preparation of isotopically labeled heterocyclic alkyne derivs. as tracers for metabotropic glutamate receptor binding)
- IT 524924-79-6P 524924-80-9P 686767-96-4P
 686767-97-5P 686767-98-6P 686767-99-7P 686768-01-4P
 686768-02-5P 686768-04-7P 686768-06-9P
 686768-10-5P 686768-13-8P 686768-15-0P
 686768-17-2P 686768-19-4P 686768-25-2P
 686768-27-4P 686768-29-6P 686768-30-9P
 686768-31-0P 686768-32-1P 686768-33-2P
 686768-35-4P
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of isotopically labeled heterocyclic alkyne derivs. as tracers for metabotropic glutamate receptor binding)

IT 62-55-5, Thioacetamide 109-09-1, 2-Chloropyridine 625-92-3,
3,5-Dibromopyridine 661-69-8, Hexamethylditin 774-53-8 1066-54-2,
Trimethylsilylacetylene 1120-90-7, 3-Iodopyridine 1611-92-3,
1,3-Dibromo-5-methylbenzene 1945-84-2, 2-Ethynylpyridine 4175-77-3,
2,4-Dibromothiazole 14630-40-1, Bis(trimethylsilyl)acetylene
20826-04-4, 5-Bromonicotinic acid 52753-63-6, reactions 73183-34-3
74094-67-0, Chloroacetyl chloride, 1-14C 97165-77-0,
3,5-Dibromobenzonitrile 179898-34-1, 3-Bromo-5-fluorobenzonitrile
329203-85-2 329204-97-9 444120-91-6 686768-41-2
686768-43-4 686768-44-5 686768-45-6 686768-46-7
686768-47-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of isotopically labeled heterocyclic alkyne derivs. as tracers for metabotropic glutamate receptor binding)

IT 37669-64-0P, (5-Bromopyridin-3-yl)methanol 50720-12-2P,
3-Bromo-5-methoxypyridine 124289-21-0P, 3-Bromo-5-methylbenzonitrile
524924-75-2P 524924-76-3P 524924-81-0P 524924-82-1P
686768-21-8P 686768-23-0P 686768-48-9P 686768-49-0P
686768-50-3P 686768-51-4P 686768-52-5P 686768-53-6P
686768-54-7P 686768-55-8P 686768-56-9P
686768-57-0P

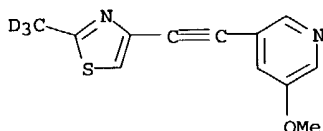
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of isotopically labeled heterocyclic alkyne derivs. as tracers for metabotropic glutamate receptor binding)

IT 686767-95-3P
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of isotopically labeled heterocyclic alkyne derivs. as tracers for metabotropic glutamate receptor binding)

RN 686767-95-3 HCAPLUS

CN Pyridine, 3-methoxy-5-[[2-(methyl-d3)-4-thiazolyl]ethynyl]- (9CI) (CA INDEX NAME)



L48 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:222367 HCAPLUS

DN 138:238175

ED Entered STN: 21 Mar 2003

TI Preparation of heterocyclic compounds as metabotropic glutamate receptor 5 (mGluR5) modulators

IN Cosford, Nicholas David Peter; Bleicher, Leo Solomon; Vernier, Jean-Michel Andre; Cube, Rowena V.; Schweiger, Edwin J.; McDonald, Ian

PA Merck & Co., Inc., USA

SO U.S. Pat. Appl. Publ., 20 pp., Cont.-in-part of U.S. Ser. No. 387,073, abandoned.

CODEN: USXXCO

DT Patent

LA English

IC ICM C07D279-12

ICS C07D241-02

NCL 544059000; 544336000; 544063000; 534751000

CC 28-7 (Heterocyclic Compounds (More Than One Hetero Atom))

Section cross-reference(s): 1

FAN.CNT 2

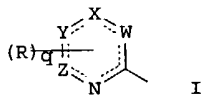
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2003055247	A1	20030320	US 2002-217800	20020813
US 6774138	B2	20040810		
PRAI US 1999-387073	B2	19990831		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES

US 2003055247 ICM C07D279-12
 ICS C07D241-02
 NCL 544059000; 544336000; 544063000; 534751000
 US 2003055247 ECLA C07D213/16; C07D213/30B; C07D239/26B; C07D241/12C;
 C07D249/08; C07D263/32; C07D271/06B; C07D077/22C;
 C07D277/24; C07D277/40; C07D285/00B3; C07D333/08

OS MARPAT 138:238175
 GI



AB The title compds. with general formula of A-L-B [wherein A = 5-7 membered ring I (where at least one of W, X, Y, and Z = (CR)p; p = 0-2; and the remainder of W, X, Y, and Z = independently O, N, S; R = halo, SH, NO₂, CO₂H, carbamate, carboxamide, OH, ester, CN, NH₂, amide, amidine, amido, SO₂, (un)substituted hydrocarbyl, aryl, or heterocyclyl); q = 0-3; L = (un)substituted alkenylene, alkynylene, or azo; B = (un)substituted (cyclo)hydrocarbyl, heterocyclyl, or aryl] and enantiomers, diastereomers, mixts., or their pharmaceutically acceptable salts thereof, which are capable of modulating the activity of excitatory amino acid receptors such as metabotropic glutamate receptor, are prepared Thus, reacting 2-bromo-1,3-thiazole with phenylacetylene in the presence of CuI, Et₃N, and PdCl₂(PPh₃)₂ in DME, followed by treatment of the resulting 2-(phenylethynyl)-1,3-thiazole with p-TsOH afforded 2-(phenylethynyl)-1,3-thiazole, p-TsOH salt.

ST heterocycle thiazole prepn metabotropic glutamate receptor modulator analgesic

IT Amino acid receptors
 RL: BSU (Biological study, unclassified); BIOL (Biological study) (excitatory; preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

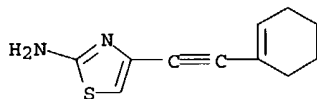
IT Glutamate receptors
 RL: BSU (Biological study, unclassified); BIOL (Biological study) (metabotropic; preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

IT 329202-67-7P 329202-70-2P 329202-84-8P
 RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) (preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

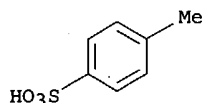
IT 329202-19-9P 329202-20-2P 329202-23-5P 329202-24-6P
 329202-25-7P 329202-26-8P 329202-27-9P 329202-28-0P
 329202-29-1P 329202-30-4P 329202-31-5P 329202-32-6P
 329202-33-7P 329202-34-8P 329202-35-9P 329202-36-0P 329202-37-1P
 329202-38-2P 329202-40-6P 329202-42-8P 329202-44-0P 329202-46-2P
 329202-48-4P 329202-50-8P 329202-52-0P 329202-54-2P 329202-56-4P
 329202-58-6P 329202-61-1P 329202-64-4P 329202-73-5P
 329202-79-1P 329202-80-4P 329202-83-7P
 329202-87-1P 329202-90-6P 329205-94-9P 329205-96-1P 329205-98-3P
 329206-00-0P 329206-02-2P 329206-04-4P
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses) (preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

IT 78-93-3, 2-Butanone, reactions 108-50-9, 2,6-Dimethylpyrazine
 115-19-5, 2-Methyl-3-butyne-2-ol 456-48-4, 3-Fluorobenzaldehyde
 464-49-3 497-38-1, Norcamphor 502-42-1, Cycloheptanone 502-49-8,
 Cyclooctanone 536-74-3, Phenylacetylene 589-92-4, 4-Methylcyclohexanone 626-55-1, 3-Bromopyridine 627-19-0, 1-Pentyne 627-41-8, Methyl propargyl ether 917-92-0, 3,3-Dimethyl-1-butyne 931-48-6, Cyclohexylethyne 931-49-7, 1-Ethynylcyclohexene 1066-54-2, Trimethylsilylacetylene 1072-72-6, Tetrahydrothiopyran-4-one 1757-42-2, 3-Methylcyclopentanone 1945-84-2, 2-Ethynylpyridine 2320-30-1, 3,5-Dimethylcyclohexanone 2816-57-1, 2,6-Dimethylcyclohexanone 3034-48-8, 2-Bromo-5-nitro-1,3-thiazole 3034-53-5, 2-Bromo-1,3-thiazole 5315-25-3, 2-Bromo-6-methylpyridine 13223-25-1, 2-Chloro-4,6-dimethoxypyrimidine 13368-65-5 14376-79-5, 3,3,5,5-Tetramethylcyclohexanone 17356-19-3, 1-Ethynylcyclopentanol

17715-00-3, 3-Cyclohexyl-1-propyne 29943-42-8, Tetrahydro-4H-pyran-4-one
 74115-12-1, 5-Chloro-3-pyridinol 111196-81-7, 2-Chloro-5-ethylpyrimidine
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of heterocyclic compds. as metabotropic glutamate receptor 5
 (mGluR5) modulators)
 IT 2510-23-8P 24202-80-0P 150145-19-0P 329202-21-3P 329202-22-4P
 329202-76-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation of heterocyclic compds. as metabotropic glutamate receptor 5
 (mGluR5) modulators)
 RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE
 (1) Anon; WO 9603406 1996 HCAPLUS
 (2) Anon; WO 9902497 1999
 (3) Anon; WO 0116121 2001 HCAPLUS
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 (5) Shih, C; J. Med. Chem. 1992, V35, P1109 HCAPLUS
 (6) Trybulski; US 4990520 A 1991 HCAPLUS
 (7) Varney, M; Brit. J. Pharmacology 1999, V126(Supp), P248
 (8) Varney, M; J. Med. Chem. 1997, V40, P2502 HCAPLUS
 (9) Varney, M; J. Pharmacology and Exptl. Therapeutics 1999, V290, P170 HCAPLUS
 IT 329202-84-8P
 RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic
 preparation); THU (Therapeutic use); BIOL (Biological study); PREP
 (Preparation); RACT (Reactant or reagent); USES (Uses)
 (preparation of heterocyclic compds. as metabotropic glutamate receptor 5
 (mGluR5) modulators)
 RN 329202-84-8 HCAPLUS
 CN 2-Thiazolamine, 4-(1-cyclohexen-1-ylethynyl)-, 4-methylbenzenesulfonate
 (9CI) (CA INDEX NAME)
 CM 1
 CRN 329202-83-7
 CMF C11 H12 N2 S



CM 2
 CRN 104-15-4
 CMF C7 H8 O3 S



L48 ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2003:91263 HCAPLUS
 DN 138:379345
 ED Entered STN: 06 Feb 2003
 TI [3H]-Methoxymethyl-MTEP and [3H]-Methoxy-PEPy: potent and selective
 radioligands for the metabotropic glutamate subtype 5 (mGlu5) receptor
 AU Cosford, Nicholas D. P.; Roppe, Jeffrey; Tehrani, Lida;
 Schweiger, Edwin J.; Seiders, T. Jon; Chaudary, Ashok; Rao, Sara;
 Varney, Mark A.
 CS Department of Chemistry, Merck Research Laboratories, San Diego,
 CA, 92121, USA
 SO Bioorganic & Medicinal Chemistry Letters (2003), 13(3), 351-354
 CODEN: BMCLE8; ISSN: 0960-894X
 PB Elsevier Science Ltd.
 DT Journal
 LA English

CC 2-1 (Mammalian Hormones)
Section cross-reference(s): 8

AB The design, synthesis, and characterization of two potent, non-competitive radioligands, [3H]-methoxymethyl-MTEP and [3H]-methoxy-PEPy, that are selective for the mGlu5 receptor are described.

ST glutamate mGluR5 receptor antagonist radioligand brain rat

IT Brain
([3H]-Methoxymethyl-MTEP and [3H]-Methoxy-PEPy in relation to design, synthesis and in-vitro characterization in rat brain membranes of potent and selective radioligands for metabotropic glutamate subtype-5 receptor)

IT Glutamate receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study) (metabotropic, mGluR5; [3H]-Methoxymethyl-MTEP and [3H]-Methoxy-PEPy in relation to design, synthesis and in-vitro characterization in rat brain membranes of potent and selective radioligands for metabotropic glutamate subtype-5 receptor).

IT Ligands
RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation) (radioligands; [3H]-Methoxymethyl-MTEP and [3H]-Methoxy-PEPy in relation to design, synthesis and in-vitro characterization in rat brain membranes of potent and selective radioligands for metabotropic glutamate subtype-5 receptor)

IT 524924-79-6P 524924-80-9P
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses) ([3H]-Methoxymethyl-MTEP and [3H]-Methoxy-PEPy in relation to design, synthesis and in-vitro characterization in rat brain membranes of potent and selective radioligands for metabotropic glutamate subtype-5 receptor)

IT 96206-92-7P 219914-59-7P 329205-68-7P 524924-75-2P 524924-76-3P 524924-77-4P 524924-78-5P
RL: BSU (Biological study, unclassified); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent) ([3H]-Methoxymethyl-MTEP and [3H]-Methoxy-PEPy in relation to design, synthesis and in-vitro characterization in rat brain membranes of potent and selective radioligands for metabotropic glutamate subtype-5 receptor)

IT 37669-64-0P 50720-12-2P 173999-17-2P 329204-97-9P 524924-81-0P 524924-82-1P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) ([3H]-Methoxymethyl-MTEP and [3H]-Methoxy-PEPy in relation to design, synthesis and in-vitro characterization in rat brain membranes of potent and selective radioligands for metabotropic glutamate subtype-5 receptor)

IT 625-92-3 1945-84-2 29681-44-5 329203-85-2
RL: RCT (Reactant); RACT (Reactant or reagent) ([3H]-Methoxymethyl-MTEP and [3H]-Methoxy-PEPy in relation to design, synthesis and in-vitro characterization in rat brain membranes of potent and selective radioligands for metabotropic glutamate subtype-5 receptor)

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

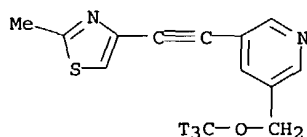
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- (2) Brodtkin, J; Pharmacol, Biochem Behav 2002, V73, P359 HCAPLUS
- (3) Chiamulera, C; Nat Neurosci 2001, V4, P873 HCAPLUS
- (4) Cosford, N; J Med Chem in press
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- (11) Spooren, W; Eur J Pharmacol 2002, V435, P161 HCAPLUS
- (12) Spooren, W; J Pharmacol Exp Ther 2000, V295, P1267 HCAPLUS
- (13) Tatarczynska, E; Br J Pharmacol 2001, V132, P1423 HCAPLUS
- (14) Varney, M; Current drug targets: CNS Neurol Disord 2002, V1, P283 HCAPLUS
- (15) Varney, M; Drug Discov Today: HTS Suppl 2000, V1, P20 HCAPLUS
- (16) Varney, M; J Pharmacol Exp Ther 1999, V290, P170 HCAPLUS

IT 524924-79-6P
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study);

BIOL (Biological study); PREP (Preparation); USES (Uses)
 ([3H]-Methoxymethyl-MTEP and [3H]-Methoxy-PEPy in relation to design,
 synthesis and in-vitro characterization in rat brain membranes of
 potent and selective radioligands for metabotropic glutamate subtype-5
 receptor)

RN 524924-79-6 HCAPLUS

CN Pyridine, 3-(methoxy-t3-methyl)-5-[(2-methyl-4-thiazolyl)ethynyl]- (9CI)
 (CA INDEX NAME)



L48 ANSWER 5 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:943427 HCAPLUS

DN 138:170117

ED Entered STN: 13 Dec 2002

TI 3-[(2-Methyl-1,3-thiazol-4-yl)ethynyl]-pyridine: A Potent and Highly
 Selective Metabotropic Glutamate Subtype 5 Receptor Antagonist with
 Anxiolytic Activity

AU Cosford, Nicholas D. P.; Tehrani, Lida; Roppe, Jeffrey;
 Schweiger, Edwin; Smith, Nicholas D.; Anderson, Jeffrey; Bristow, Linda;
 Brodtkin, Jesse; Jiang, Xiaohui; McDonald, Ian; Rao, Sara;
 Washburn, Mark; Varney, Mark A.

CS Merck Research Laboratories, San Diego, CA, 92121, USA

SO Journal of Medicinal Chemistry (2003), 46(2), 204-206

CODEN: JMCMAR; ISSN: 0022-2623

PB American Chemical Society

DT Journal

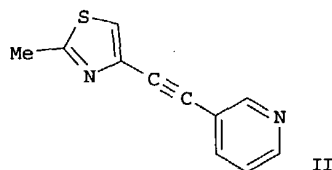
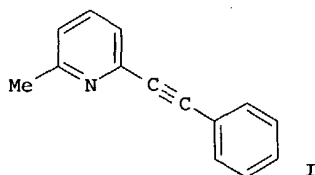
LA English

CC 28-7 (Heterocyclic Compounds (More Than One Hetero Atom))

Section cross-reference(s): 1

OS CASREACT 138:170117

GI



AB 2-Methyl-6-(phenylethynyl)pyridine (I), a potent noncompetitive mGlu5
 receptor antagonist widely used to characterize the pharmacol. of mGlu5
 receptors, suffers from a number of shortcomings as a therapeutic agent,
 including off-target activity and poor aqueous solubility. Seeking to improve the
 properties of I led to the synthesis of compound II, a highly selective
 mGlu5 receptor antagonist that is 5-fold more potent than I in the rat
 fear-potentiated startle model of anxiety.

ST thiazole pyridinylethynylmethyl prepn glutamate receptor antagonist

IT Nervous system, disease

(central; preparation and mGlu5 receptor antagonistic activity of phenyl-
 and pyridinylethynylthiazoles)

IT Structure-activity relationship

(glutamatergic antagonist; preparation and mGlu5 receptor antagonistic
 activity of phenyl- and pyridinylethynylthiazoles)

IT Glutamate receptors

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(metabotropic, mGluR5; preparation and mGlu5 receptor antagonistic activity
 of phenyl- and pyridinylethynylthiazoles)

IT Blood-brain barrier

Human

Nervous system agents

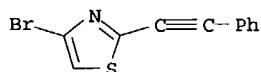
(preparation and mGlu5 receptor antagonistic activity of phenyl- and
 pyridinylethynylthiazoles)

- IT 109-04-6, 2-Bromopyridine 591-50-4, Iodobenzene 626-55-1,
3-Bromopyridine 1120-87-2, 4-Bromopyridine
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation and mGlu5 receptor antagonist activity of phenyl- and
pyridinylethynylthiazoles via coupling reactions of halobenzene or
halopyridines with Me[(trimethylsilyl)ethynyl]thiazole)
- IT 536-74-3, Phenylacetylene 3034-53-5, 2-Bromo-1,3-thiazole 4175-77-3,
2,4-Dibromothiazole 34259-99-9, 4-Bromo-1,3-thiazole
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation and mGlu5 receptor antagonist activity of
phenylethynylthiazoles via coupling reactions of bromothiazoles and
phenylacetylene)
- IT 329203-16-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and mGlu5 receptor antagonist activity of
phenylethynylthiazoles via coupling reactions of bromothiazoles and
phenylacetylene)
- IT 329203-13-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and mGlu5 receptor antagonist activity of
phenylethynylthiazoles via coupling reactions of bromothiazoles and
phenylacetylene)
- IT 594-27-4 51364-51-3
RL: MSC (Miscellaneous)
(preparation and mGlu5 receptor antagonistic activity of phenyl- and
pyridinylethynylthiazoles)
- IT 62-55-5, Thioacetamide 14630-40-1, Bis(trimethylsilyl)acetylene
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of methyl[(trimethylsilyl)ethynyl]thiazole via
cyclocondensation of thioacetamide with intermediate
chloro(trimethylsilyl)butynone obtained by acetylation of
chloroacetylchloride with bis(trimethylsilyl)acetylene)
- IT 18245-82-4P 329203-85-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation of methyl[(trimethylsilyl)ethynyl]thiazole via
cyclocondensation of thioacetamide with intermediate
chloro(trimethylsilyl)butynone obtained by acetylation of
chloroacetylchloride with bis(trimethylsilyl)acetylene)
- IT 329203-01-2P 329205-68-7P 497145-23-0P
497145-24-1P
RL: PAC (Pharmacological activity); PRP (Properties); SPN (Synthetic
preparation); BIOL (Biological study); PREP (Preparation)
(preparation, structure-activity relationship, and mGlu5 receptor antagonist
activity of phenyl- and pyridinylethynylthiazoles via coupling
reactions of halobenzene or halopyridines with
Me[(trimethylsilyl)ethynyl]thiazole)
- IT 35070-01-0P
RL: PAC (Pharmacological activity); PRP (Properties); RCT (Reactant); SPN
(Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT
(Reactant or reagent)
(preparation, structure-activity relationship, and mGlu5 receptor antagonist
activity of phenylethynylthiazoles via coupling reactions of
bromothiazoles and phenylacetylene)
- IT 111600-88-5P 497145-22-9P
RL: PAC (Pharmacological activity); PRP (Properties); SPN (Synthetic
preparation); BIOL (Biological study); PREP (Preparation)
(preparation, structure-activity relationship, and mGlu5 receptor antagonist
activity of phenylethynylthiazoles via coupling reactions of
bromothiazoles and phenylacetylene)

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

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 IT 329203-16-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and mGlu5 receptor antagonist activity of
 phenylethynylthiazoles via coupling reactions of bromothiazoles and
 phenylacetylene)
 RN 329203-16-9 HCAPLUS
 CN Thiazole, 4-bromo-2-(phenylethynyl)- (9CI) (CA INDEX NAME)



L48 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2002:932568 HCAPLUS
 DN 138:379544
 ED Entered STN: 10 Dec 2002
 TI [3H]methoxymethyl-3-[(2-methyl-1,3-thiazol-4-yl)ethynyl]pyridine binding
 to metabotropic glutamate receptor subtype 5 in rodent brain: in vitro and
 in vivo characterization
 AU Anderson, Jeffery J.; Rao, Sara P.; Rowe, Blake; Giracello, Darlene R.;
 Holtz, Greg; Chapman, Deborah F.; Tehrani, Lida; Bradbury, Margaret J.;
 Cosford, Nicholas D. P.; Varney, Mark A.
 CS Department of Neuropharmacology, Merck Research Laboratories,
 San Diego, CA, USA
 SO Journal of Pharmacology and Experimental Therapeutics (2002), 303(3),
 1044-1051
 CODEN: JPETAB; ISSN: 0022-3565
 PB American Society for Pharmacology and Experimental Therapeutics
 DT Journal
 LA English
 CC 2-8 (Mammalian Hormones)
 Section cross-reference(s): 1
 AB The binding of [3H]methoxymethyl-3-[(2-methyl-1,3-thiazol-4-
 yl)ethynyl]pyridine (methoxymethyl-MTEP), a potent and selective
 antagonist for metabotropic glutamate (mGlu)5 receptors, was characterized
 in rat brain both in vitro and in vivo. Non-specific binding, as defined
 with 10 .mu.M 2-methyl-6-(phenylethynyl)-pyridine (MPEP), was less than
 10% of total binding in rat brain membranes. The binding of
 [3H]methoxymethyl-MTEP was of high affinity (Kd = 20.+-.2.7 nM), saturable
 (Bmax = 487.+-.48 fmol/mg protein), and to a single site. The mGlu5
 antagonists methoxymethyl-MTEP and MPEP displaced [3H]methoxymethyl-MTEP
 binding with IC50 values of 30 and 15 nM, resp. In vivo administration of
 [3H]methoxymethyl-MTEP (50 .mu.Ci/kg i.v.) revealed 12-fold higher binding
 in hippocampus (an area enriched in mGlu5 receptors) relative to
 cerebellum (an area with few mGlu5 receptors) in rats. Similarly,
 administration of [3H]methoxymethyl-MTEP to mGlu5-deficient mice
 demonstrated binding at background levels in forebrain, whereas wild-type
 littermates exhibited 17-fold higher binding in forebrain relative to
 cerebellum. Systemic administration of unlabeled mGlu5 antagonists
 methoxymethyl-MTEP and MPEP to rats reduced the binding of
 [3H]methoxymethyl-MTEP with ID50 values of 0.8 and 2 mg/kg i.p., resp., 1
 h post-treatment. The mGlu5 agonist 2-chloro-5-hydroxyphenylglycine
 (CHPG) (0.3, 1, and 3 .mu.mol) dose-dependently increased phosphoinositide
 (PI) hydrolysis in the hippocampus after i.c.v. administration in rats.
 CHPG-evoked increases in PI hydrolysis were blocked with MPEP at a dose
 (10 mg/kg i.p.) that markedly reduced [3H]methoxymethyl-MTEP binding in
 vivo. These results indicate that [3H]methoxymethyl-MTEP is a selective
 radioligand for labeling mGlu5 and is useful for studying the binding of
 mGlu5 receptors in rat brain in vitro and in vivo.
 ST methoxymethyl methyl thiazol yl ethynyl pyridine binding mGLUR5 brain
 IT Brain
 (cerebellum; methoxymethyl-MTEP binds to mGlu5 and is a useful tool
 for studying mGlu5 receptor function/signaling in rodent brain)
 IT Brain

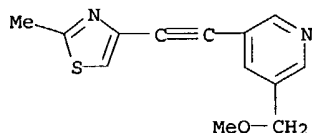
- (forebrain; methoxymethyl-MTEP binds to mGluR5 and is a useful tool for studying mGlu5 receptor function/signaling in rodent brain)
- IT Brain
(hippocampus; methoxymethyl-MTEP binds to mGluR5 and is a useful tool for studying mGlu5 receptor function/signaling in rodent brain)
- IT Transgene
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(mGluR5 deficiency mice; methoxymethyl-MTEP binds to mGluR5 and is a useful tool for studying mGlu5 receptor function/signaling in rodent brain)
- IT Glutamate receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(metabotropic, mGluR5; methoxymethyl-MTEP binds to mGluR5 in rodent brain membrane and is a useful tool for studying mGlu5 receptor function/signaling in rodent brain)
- IT Phosphatidylinositols
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(methoxymethyl-MTEP binds to mGluR5 and is a useful tool for studying mGlu5 receptor function/signaling in rodent brain)
- IT Cell membrane
(methoxymethyl-MTEP binds to mGluR5 in rodent brain membrane and is a useful tool for studying mGlu5 receptor function/signaling in rodent brain)
- IT 170846-74-9
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(mGlu5 agonist; methoxymethyl-MTEP binds to mGluR5 and is a useful tool for studying mGlu5 receptor function/signaling in rodent brain)
- IT 96206-92-7, MPEP
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(mGluR5 antagonist; methoxymethyl-MTEP binds to mGluR5 and is a useful tool for studying mGlu5 receptor function/signaling in rodent brain)
- IT 528602-22-4
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(methoxymethyl-MTEP binds to mGluR5 and is a useful tool for studying mGlu5 receptor function/signaling in rodent brain)
- IT 56-86-0, L-Glutamic acid, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(methoxymethyl-MTEP binds to mGluR5 and is a useful tool for studying mGlu5 receptor function/signaling in rodent brain)

RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD

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 IT 528602-22-4
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (methoxymethyl-MTEP binds to mGluR5 and is a useful tool for studying
 mGlu5 receptor function/signaling in rodent brain)
 RN 528602-22-4 HCAPLUS
 CN Pyridine, 3-(methoxymethyl)-5-[(2-methyl-4-thiazolyl)ethynyl]-, labeled
 with tritium (9CI) (CA INDEX NAME)



L48 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2001:167983 HCAPLUS
 DN 134:222706
 ED Entered STN: 09 Mar 2001
 TI Preparation of heterocyclic compounds as metabotropic glutamate receptor 5
 (mGluR5) modulators
 IN Cosford, Nicholas D. P.; McDonald, Ian A.; Bleicher,
 Leo Solomon; Cube, Rowena V.; Schweiger, Edwin J.; Vernier, Jean-Michel;
 Hess, Stephen D.; Varney, Mark A.; Munoz, Benito
 PA Merck & Co., Inc., USA
 SO PCT Int. Appl., 132 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C07D277-22
 ICS C07D277-24; C07D277-40; C07D213-16; C07D213-30; C07D239-26;
 C07D263-32; C07D271-06; C07D241-12; C07D249-08; C07D285-00;
 C07D333-08; C07D417-06; C07D409-06; C07D407-06
 CC 28-7 (Heterocyclic Compounds (More Than One Hetero Atom))
 Section cross-reference(s): 1

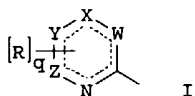
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001016121	A1	20010308	WO 2000-US23923	20000831
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1214303	A1	20020619	EP 2000-957932	20000831
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003508390	T2	20030304	JP 2001-519688	20000831
PRAI US 1999-387073	A2	19990831		
US 1999-387135	A2	19990831		
WO 2000-US23923	W	20000831		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2001016121	ICM	C07D277-22
	ICS	C07D277-24; C07D277-40; C07D213-16; C07D213-30; C07D239-26; C07D263-32; C07D271-06; C07D241-12; C07D249-08; C07D285-00; C07D333-08; C07D417-06; C07D409-06; C07D407-06

OS MARPAT 134:222706
 GI



AB The title compds. I [ALB; A = 5-7 membered ring II (wherein at least one of W, X, Y and Z = (CR)_p; p = 0-2, and the remainder of W, X, Y and Z = O, N, S; R = halo, (un)substituted aryl, heterocyclyl, etc.); L = (un)substituted alkenylene, alkynylene, azo; B = (un)substituted alkyl, cycloalkyl, heterocyclyl, etc.] and their pharmaceutically acceptable salts which are capable of modulating the activity of excitatory amino acid receptors such as metabotropic glutamate receptor, were prepared. Thus, reacting 2-bromo-1,3-thiazole with phenylacetylene in the presence of CuI, Et₃N and PdCl₂(PPh₃)₂ in DME followed by treatment of the resulting 2-(phenylethynyl)-1,3-thiazole with p-TsOH afforded 2-(phenylethynyl)-1,3-thiazole, p-TsOH salt which showed IC₅₀ of 0.1 nM - 10 μM in Ca²⁺ flux assay and analgesic efficacy in analgesic animal model (CFA model).

ST heterocycle prepn metabotropic glutamate receptor modulator analgesic
IT Glutamate receptors

RL: BSU (Biological study, unclassified); MSC (Miscellaneous); BIOL (Biological study)

(metabotropic, mGluR5; preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

IT Analgesics
(preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

IT 329202-67-7P 329202-70-2P 329202-84-8P 329203-16-9P
329203-45-4P 329203-62-5P 329204-13-9P 329204-29-7P
329204-39-9P 329204-47-9P 329204-85-5P 329204-87-7P
329204-97-9P 329205-38-1P 329205-42-7P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

IT 24622-44-4P 35070-01-0P 111600-92-1P
129610-15-7P 329202-19-9P 329202-20-2P 329202-23-5P
329202-24-6P 329202-25-7P 329202-26-8P 329202-27-9P
329202-28-0P 329202-29-1P 329202-30-4P 329202-31-5P
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329202-44-0P 329202-46-2P 329202-48-4P 329202-50-8P 329202-52-0P
329202-54-2P 329202-56-4P 329202-58-6P 329202-61-1P 329202-64-4P
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329205-60-9P 329205-62-1P 329205-64-3P 329205-66-5P
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329205-84-7P 329205-86-9P 329205-88-1P
329205-90-5P 329205-92-7P 329205-94-9P 329205-96-1P
329205-98-3P 329206-00-0P 329206-02-2P 329206-04-4P 329206-11-3P
329206-13-5P 329206-16-8P 329206-18-0P 329206-20-4P

329206-22-6P 329206-24-8P 329214-37-1P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

IT 70-23-5, Ethyl bromopyruvate 78-93-3, 2-Butanone, reactions 78-95-5, Chloroacetone 83-33-0, 1-Indanone 92-66-0, 4-Bromobiphenyl 98-80-6, Phenylboronic acid 100-58-3, Phenylmagnesium bromide 107-19-7, Propargyl alcohol 108-50-9, 2,6-Dimethylpyrazine 108-79-2, 4,6-Dimethyl-2-hydroxypyrimidine 109-01-3, 1-Methylpiperazine 110-89-4, Piperidine, reactions 115-19-5, 2-Methyl-3-butyne-2-ol 118-92-3, Anthranilic acid 120-72-9, Indole, reactions 126-81-8, 5,5-Dimethyl-1,3-cyclohexanedione 141-30-0, 3,6-Dichloropyridazine 352-13-6, 4-Fluorophenylmagnesium bromide 456-48-4, 3-Fluorobenzaldehyde 464-49-3 497-38-1, Norcamphor 502-42-1, Cycloheptanone 502-49-8, Cyclooctanone 529-34-0, .alpha.-Tetralone 530-93-8, .beta.-Tetralone 536-74-3, Phenylacetylene 585-36-4, 3-Trifluoromethylcyclohexanone 589-92-4, 4-Methylcyclohexanone 615-13-4, 2-Indanone 621-79-4, Cinnamamide 622-31-1, syn-Benzaldehyde oxime 623-49-4, Ethyl cyanoformate 624-28-2, 2,5-Dibromopyridine 625-92-3, 3,5-Dibromopyridine 626-55-1, 3-Bromopyridine 627-19-0, 1-Pentyne 627-41-8, Methyl propargyl ether 693-95-8, 4-Methylthiazole 766-49-4, Benzene, 1-ethynyl-2-fluoro- 766-82-5, Benzene, 1-ethynyl-3-methyl 766-98-3, 1-Ethynyl-4-fluorobenzene 917-92-0, 3,3-Dimethyl-1-butyne 931-48-6, Cyclohexylethyne 931-49-7, 1-Ethynylcyclohexene 1066-54-2, Trimethylsilylacetylene 1072-72-6, Tetrahydrothiopyran-4-one 1080-32-6, Diethylbenzyl phosphonate 1193-18-6, 3-Methyl-2-cyclohexen-1-one 1532-97-4, 4-Bromoisoquinoline 1679-18-1, 4-Chlorophenylboronic acid 1692-15-5, Pyridine-4-boronic acid 1692-25-7, Pyridine-3-boronic acid 1757-42-2, 3-Methylcyclopentanone 1945-84-2, 2-Ethynylpyridine 2320-30-1, 3,5-Dimethylcyclohexanone 2816-57-1, 2,6-Dimethylcyclohexanone 3034-48-8, 2-Bromo-5-nitro-1,3-thiazole 3034-53-5, 2-Bromo-1,3-thiazole 3581-91-7, 4,5-Dimethyl-1,3-thiazole 4175-77-3, 2,4-Dibromo-1,3-thiazole 4341-24-6, 5-Methyl-1,3-cyclohexanedione 4360-47-8, Cinnamitrile 4526-06-1 4595-59-9, 5-Bromopyrimidine 4595-60-2, 2-Bromopyrimidine 4637-24-5 4832-17-1, 2-Decalone 5315-25-3, 2-Bromo-6-methylpyridine 5323-87-5, 3-Ethoxy-2-cyclohexen-1-one 5720-07-0, 4-Methoxyphenylboronic acid 5927-18-4, Trimethylphosphonoacetate 6622-92-0, 2,4-Dimethyl-6-hydroxypyrimidine 6651-36-1 6672-30-6 7214-52-0, cis-3,5-Dimethylcyclohexanone 10472-24-9, Methyl 2-oxocyclopentanecarboxylate 13139-86-1, 4-Anisylmagnesium bromide 13223-25-1, 2-Chloro-4,6-dimethoxypyrimidine 13368-65-5 13472-85-0, 5-Bromo-2-methoxypyrimidine 13575-75-2, 6,7-Dimethoxy-1-tetralone 14376-79-5, 3,3,5,5-Tetramethylcyclohexanone 14630-40-1, Bis(trimethylsilyl)acetylene 16114-47-9, 3,5-Dimethyl-4-isoxazolyboronic acid 16494-36-3, 2-Iodo-5-methylthiophene 16982-21-1, Ethyl thiooxamate 17356-19-3, 1-Ethynylcyclopentanol 17715-00-3, 3-Cyclohexyl-1-propyne 18871-66-4, N,N-Dimethylacetamide dimethylacetal 19550-72-2, cis-3,4-Dimethylcyclopentanone 20826-04-4, 5-Bromonicotinic acid 23380-78-1 29943-42-8, Tetrahydro-4H-pyran-4-one 32111-21-0, 2-Iodopyrazine 32499-64-2 34259-99-9, 4-Bromo-1,3-thiazole 35590-37-5, 5-Bromonicotinonitrile 38945-21-0, O-Allylhydroxylamine hydrochloride 52482-10-7 54390-97-5, 5-Bromoisothiazole 58372-16-0 69045-79-0, 2-Chloro-5-iodopyridine 74115-12-1, 5-Chloro-3-pyridinol 81166-84-9, Cyclopropyl trimethylsilylacetylene 89878-14-8, Diethyl(3-pyridyl)borane 109299-78-7, (5-Pyrimidinyl)boronic acid 111196-81-7, 2-Chloro-5-ethylpyrimidine 223425-52-3 329206-68-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

IT 694-82-6P 698-16-8P 2510-23-8P 6267-39-6P 6436-59-5P 7210-73-3P
7214-50-8P 13750-63-5P 13750-68-0P 18245-82-4P 20949-84-2P
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86521-14-4P 86521-15-5P 111600-83-0P 117637-81-7P 123994-49-0P
127053-31-0P 150145-19-0P 154499-80-6P 170859-78-6P 176648-09-2P
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256637-49-7P 291763-66-1P 329202-21-3P 329202-22-4P 329202-76-8P
329203-70-5P 329203-75-0P 329203-85-2P 329203-88-5P 329204-05-9P
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329205-36-9P 329205-79-0P 329205-81-4P 329206-36-2P 329206-38-4P
329206-40-8P 329206-42-0P 329206-45-3P 329206-48-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

- (1) Agouron Pharma; WO 9603406 A 1996 HCAPLUS
- (2) Gasparini; BRITISH JOURNAL OF PHARMACOLOGY 1999, V126(SUPPL PROC), P249
- (3) Novartis Erfindungen Verwaltun; WO 9902497 A 1999
- (4) Shih; HCAPLUS
- (5) Shih; J MED CHEM 1992, V35(6), P1109 HCAPLUS
- (6) Varney; HCAPLUS
- (7) Varney; BRITISH JOURNAL OF PHARMACOLOGY 1999, V126(SUPPL PROC), P248
- (8) Varney; J MED CHEM 1997, V40(16), P2502 HCAPLUS
- (9) Varney, M; JOURNAL OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS 1999, V290(1), P170 HCAPLUS

IT 329202-84-8P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

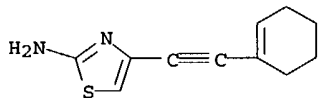
(preparation of heterocyclic compds. as metabotropic glutamate receptor 5 (mGluR5) modulators)

RN 329202-84-8 HCAPLUS

CN 2-Thiazolamine, 4-(1-cyclohexen-1-ylethynyl)-, 4-methylbenzenesulfonate (9CI) (CA INDEX NAME)

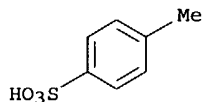
CM 1

CRN 329202-83-7
CMF C11 H12 N2 S



CM 2

CRN 104-15-4
CMF C7 H8 O3 S



=> d all hitstr 151

LS1 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:672946 HCAPLUS

DN 126:47225

ED Entered STN: 14 Nov 1996

TI Preparation of substituted heterocyclylisoquinolinium salts for the treatment and prevention of neurodegenerative disorders or neurotoxic injuries

IN Dority, John A., Jr.; Earley, William G.; Kumar, Virendra; Mallamo, John P.; Miller, Matthew S.; Subramanyam, Chakrapani

PA Sterling Winthrop Inc., USA

SO U.S., 58 pp., Cont.-in-part of U.S. Ser. No. 121,389, abandoned.

CODEN: USXXAM

DT Patent

LA English

IC ICM A61K031-54

ICS A61K031-495; A61K031-425; A61K031-415; C07D763-52; C07D415-00; C07D417-02; C07D771-02

NCL 514226800

CC 28-10 (Heterocyclic Compounds (More Than One Hetero Atom))

Section cross-reference(s): 1

Searched by Noble Jarrell

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5569655	A	19961029	US 1994-283319	19940729 <--
	EP 647641	A1	19950412	EP 1994-202603	19940910 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	CA 2131967	AA	19950315	CA 1994-2131967	19940913 <--
	AU 9472941	A1	19950330	AU 1994-72941	19940913 <--
	AU 685821	B2	19980129		
	HU 68092	A2	19950529	HU 1994-2629	19940914 <--
	JP 07224065	A2	19950822	JP 1994-219974	19940914 <--
	US 5604224	A	19970218	US 1995-452941	19950530 <--
PRAI	US 1993-121389		19930914 <--		
	US 1994-283319		19940729 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 5569655	ICM	A61K031-54
	ICS	A61K031-495; A61K031-425; A61K031-415; C07D763-52; C07D415-00; C07D417-02; C07D771-02
	NCL	514226800

OS MARPAT 126:47225

GI For diagram(s), see printed CA Issue.

AB The title compds. [I; R1 = H, lower alkyl; R2, R3 = H, lower alkyl; R2R3 = cycloalkyl, lower alkylidene; R4, R5 = lower alkynyl, lower alkoxy, (un)substituted Ph, etc.; R6 = H, lower alkyl, halo, etc.; A = (un)substituted 5- or 6-membered monocyclic aromatic heterocycle (together with C and N atoms to which it is attached); X- = anion; p = 0 when R6 is neg. charged radical; p = 1 when R6 = other than neg. charged radical], useful in the treatment or prevention of neurodegenerative disorders such as Huntington's disease, Alzheimer's disease, amyotrophic lateral sclerosis, Down's Syndrome, senile dementia, multi-infarct dementia and Parkinson's disease, as well as in the treatment or prevention of neurotoxic injuries associated with, e.g., stroke, carbon monoxide poisoning, hyperinsulinemia and cardiac arrest, were prepared. Thus, reaction of thiazolo[3,2-b]isoquinolinium perchlorate with 2,2-dimethyl-1,1-diethoxyethylene in MeCN under reflux followed by conversion of the corresponding perchlorate to chloride afforded II which showed IC50 of 173 nM against NMDA-induced neurotoxicity.

ST heterocyclylisoquinolinium prepn neurodegenerative disorder treatment; neurotoxic injury treatment heterocyclylisoquinolinium prepn; NMDA antagonist heterocyclylisoquinolinium prepn; Huntington's disease heterocyclylisoquinolinium prepn; Alzheimer's disease heterocyclylisoquinolinium prepn; amyotrophic lateral sclerosis heterocyclylisoquinolinium prepn; Down's Syndrome heterocyclylisoquinolinium prepn; senile dementia heterocyclylisoquinolinium prepn; multiinfarct dementia heterocyclylisoquinolinium prepn; Parkinson's disease heterocyclylisoquinolinium prepn; stroke heterocyclylisoquinolinium prepn; carbon monoxide poisoning heterocyclylisoquinolinium prepn; hyperinsulinemia heterocyclylisoquinolinium prepn; heart arrest heterocyclylisoquinolinium prepn; ethanothiazoloisoquinolinium prepn NMDA antagonist; nervous system agent heterocyclylisoquinolinium prepn

IT Nervous system
(Huntington's chorea, treatment or prevention; preparation of substituted heterocyclylisoquinolinium salts for the treatment and prevention of neurodegenerative disorders or neurotoxic injuries)

IT Glutamate antagonists
(NMDA antagonists; preparation of substituted heterocyclylisoquinolinium salts for the treatment and prevention of neurodegenerative disorders or neurotoxic injuries)

IT Nervous system
(amyotrophic lateral sclerosis, treatment or prevention; preparation of substituted heterocyclylisoquinolinium salts for the treatment and prevention of neurodegenerative disorders or neurotoxic injuries)

IT Heart, disease
(arrest, treatment or prevention; preparation of substituted heterocyclylisoquinolinium salts for the treatment and prevention of neurodegenerative disorders or neurotoxic injuries)

IT Nervous system
(degeneration, treatment or prevention; preparation of substituted heterocyclylisoquinolinium salts for the treatment and prevention of neurodegenerative disorders or neurotoxic injuries)

IT Mental disorder
(dementia, multi-infarct, treatment or prevention; preparation of substituted heterocyclylisoquinolinium salts for the treatment and

- prevention of neurodegenerative disorders or neurotoxic injuries)
- IT Alzheimer's disease
Nervous system agents
(preparation of substituted heterocyclylisoquinolinium salts for the treatment and prevention of neurodegenerative disorders or neurotoxic injuries)
- IT Mental disorder
(senile psychosis, treatment or prevention; preparation of substituted heterocyclylisoquinolinium salts for the treatment and prevention of neurodegenerative disorders or neurotoxic injuries)
- IT Brain, disease
(stroke, treatment or prevention; preparation of substituted heterocyclylisoquinolinium salts for the treatment and prevention of neurodegenerative disorders or neurotoxic injuries)
- IT Down's syndrome
Parkinson's disease
(treatment or prevention; preparation of substituted heterocyclylisoquinolinium salts for the treatment and prevention of neurodegenerative disorders or neurotoxic injuries)
- IT 9004-10-8, Insulin, biological studies
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(hyperinsulinemia; treatment or prevention; preparation of substituted heterocyclylisoquinolinium salts for the treatment and prevention of neurodegenerative disorders or neurotoxic injuries)
- IT 630-08-0, Carbon monoxide, biological studies
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(poisoning; treatment; preparation of substituted heterocyclylisoquinolinium salts for the treatment and prevention of neurodegenerative disorders or neurotoxic injuries)
- IT 163628-54-4P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of substituted heterocyclylisoquinolinium salts for the treatment and prevention of neurodegenerative disorders or neurotoxic injuries)
- IT 163628-53-3P 163628-55-5P 163628-56-6P 163628-57-7P 163628-58-8P
163628-59-9P 163628-60-2P 163628-62-4P 163628-63-5P 163628-64-6P
163628-65-7P 163628-66-8P 169376-93-6P 169376-94-7P 169376-95-8P
169376-96-9P 169376-99-2P 169377-00-8P 169377-03-1P 169377-04-2P
169377-06-4P 169377-07-5P 169377-08-6P 169377-12-2P 169377-14-4P
169377-17-7P 169377-18-8P 169377-52-0P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of substituted heterocyclylisoquinolinium salts for the treatment and prevention of neurodegenerative disorders or neurotoxic injuries)
- IT 6384-92-5, NMDA
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(preparation of substituted heterocyclylisoquinolinium salts for the treatment and prevention of neurodegenerative disorders or neurotoxic injuries)
- IT 78-82-0, Isobutyronitrile 83-33-0, 1-Indanone 86-52-2,
1-Chloromethylnaphthalene 90-96-0 90-98-2 90-99-3, Diphenylmethyl chloride 100-39-0, Benzyl bromide 108-86-1, Bromobenzene, reactions 110-00-9, Furan 110-02-1, Thiophene 119-84-6 122-51-0, Triethyl orthoformate 123-75-1, Pyrrolidine, reactions 271-89-6, Benzofuran 288-13-1, Pyrazole 288-32-4, Imidazole, reactions 288-36-8, 1,2,3-Triazole 288-42-6, Oxazole 288-88-0, 1H-1,2,4-Triazole 345-92-6 488-93-7, Furan-3-carboxylic acid 498-60-2, 3-Furaldehyde 498-62-4, 3-Thiophenecarboxaldehyde 527-72-0, 2-Thienylcarboxylic acid 530-48-3, 1,1-Diphenylethylene 591-51-5, Phenyllithium 611-97-2, Di(p-tolyl)methanone 614-98-2, Ethyl 3-furoate 616-47-7, 1-Methylimidazole 626-05-1, 2,6-Dibromopyridine 626-55-1, 3-Bromopyridine 637-59-2, 3-Phenylpropyl bromide 693-95-8, 4-Methylthiazole 824-94-2, 4-Methoxybenzyl chloride 872-31-1, 3-Bromothiophene 939-26-4, 2-Bromomethylnaphthalene 1868-00-4 1929-29-9, 3-(4-Methoxyphenyl)propionic acid 2398-37-0, 3-Bromoanisole 2743-38-6 3034-53-5, 2-Bromothiazole 3581-89-3, 5-Methylthiazole 4238-71-5, 1-Benzylimidazole 4316-42-1, 1-Butylimidazole 6971-51-3, 3-Methoxybenzylalcohol 7094-34-0 7164-98-9, 1-Phenylimidazole 10111-08-7, 2-Imidazolecarboxaldehyde 10599-70-9, (2,5-Dimethyl-3-acetyl)furan 13414-95-4 16806-93-2, 4,5,6,7-Tetrahydrobenzofuran-4-one

18982-54-2, 2-Bromobenzylalcohol 19524-06-2, 4-Bromopyridine
hydrochloride 22037-28-1, 3-Bromofuran 25032-74-0 39193-85-6
39687-95-1, Methyl isocyanoacetate 79265-30-8, 2-Trimethylsilylthiazole
87630-35-1, 1-Triisopropylsilylpyrrole 108153-93-1, 4,5,6,7-
Tetrahydrobenzofuran-7-one 167075-59-4 170487-35-1,
4,5,6,7-Tetrahydro-3-methylbenzisoxazol-7-one

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of substituted heterocyclisiquinolinium salts for the
treatment and prevention of neurodegenerative disorders or neurotoxic
injuries)

IT 704-38-1P 1120-87-2P, 4-Bromopyridine 1488-34-2P 1961-97-3P,
3-Phenylindene 2642-81-1P 2919-20-2P 4356-69-8P 6002-15-9P,
1-Phenyl-2-imidazolecarboxaldehyde 6086-21-1P 6175-14-0P 6918-15-6P
10045-65-5P, 1-Benzyl-2-imidazolecarboxaldehyde 10200-59-6P,
2-Thiazolecarboxaldehyde 10605-43-3P 10605-50-2P 13336-31-7P,
4-Methoxy-1-indanone 13623-25-1P, 6-Methoxy-1-indanone 13750-68-0P,
4-Methyl-2-thiazolecarboxaldehyde 13750-81-7P 13750-82-8P
13838-78-3P, 5-Methyl-2-thiazolecarboxaldehyde 17920-86-4P 20583-35-1P
24295-04-3P 25603-17-2P 26453-81-6P 29265-85-8P 30078-67-2P
30782-41-3P 31794-11-3P 31936-92-2P 35779-35-2P 39240-84-1P
40731-98-4P, 4-Hydroxy-1-indanone 42772-87-2P 52070-18-5P
55707-55-6P 56643-92-6P 56643-95-9P, 1-(4-Methoxybenzyl)imidazole
57803-92-6P 72459-37-1P 77605-69-7P, 5-Methoxy-3-phenylindene
87630-36-2P 91272-98-9P 95460-12-1P, 1-(4-Methoxybenzyl)imidazole-2-
carboxaldehyde 98318-77-5P 98946-66-8P 99651-37-3P 104053-68-1P,
6-Methoxy-1-phenyl-1-indanol 105399-18-6P 118994-84-6P,
4-Oxazolecarboxaldehyde 127158-63-8P 130551-90-5P 148900-66-7P
155855-38-2P 156841-32-6P 161227-55-0P 161227-56-1P 161227-57-2P
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169378-11-4P 169378-12-5P 169378-16-9P 169378-17-0P 169378-18-1P
169378-22-7P 169378-24-9P 169378-25-0P 169378-28-3P 169378-29-4P
169378-30-7P 169378-31-8P 169378-33-0P 169378-35-2P 169378-37-4P
169378-39-6P, 4-Methoxy-1-phenyl-1-indanol 169378-45-4P 169378-46-5P
169378-49-8P 169378-51-2P 169378-52-3P, 1-Butyl-2-
imidazolecarboxaldehyde 169378-53-4P 170486-33-6P 170486-34-7P
170486-48-3P 170486-49-4P 170486-55-2P 170486-58-5P 170486-59-6P
170486-63-2P 170487-38-4P, Methyl 4-oxazolecarboxylate 182802-19-3P,
7-Methoxy-3-phenylindene 182802-20-6P 182802-34-2P 184538-02-1P
184538-04-3P 184538-06-5P 184583-77-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

(preparation of substituted heterocyclisiquinolinium salts for the
treatment and prevention of neurodegenerative disorders or neurotoxic
injuries)

IT 182802-18-2P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of substituted heterocyclisiquinolinium salts for the
treatment and prevention of neurodegenerative disorders or neurotoxic
injuries)

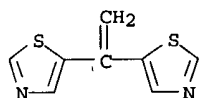
IT 161227-87-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

(preparation of substituted heterocyclisiquinolinium salts for the
treatment and prevention of neurodegenerative disorders or neurotoxic
injuries)

RN 161227-87-8 HCAPLUS

CN Thiazole, 5,5'-ethenylidenebis- (9CI) (CA INDEX NAME)



=> d all hitstr l51 2

L51 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1996:580564 HCAPLUS
 DN 125:328525
 ED Entered STN: 30 Sep 1996
 TI Substituted 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA antagonists useful for the treatment of neurodegenerative disorders or neurotoxic injuries
 IN Dehaven-Hudkins, Diane L.; Dority, John A., Jr.; Earley, William G.; Kumar, Virendra; Mallamo, John P.; Miller, Matthew S.; Subramanyam, Chakrapani
 PA Sterling Winthrop Inc., USA
 SO U.S., 80 pp., Cont.-in-part of U.S. Ser. No. 121,127, abandoned.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM A61K031-44
 ICS C07D471-00
 NCL 514278000
 CC 27-18 (Heterocyclic Compounds (One Hetero Atom))
 Section cross-reference(s): 1, 63

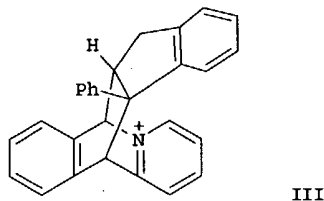
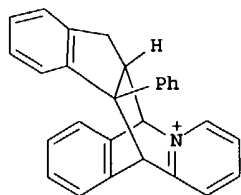
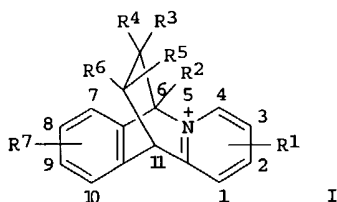
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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	EP 656359	A1	19950607	EP 1994-202601	19940910 <--
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	HU 68530	A2	19950628	HU 1994-2634	19940914 <--
	JP 07179462	A2	19950718	JP 1994-220255	19940914 <--
	US 5631264	A	19970520	US 1995-449125	19950524 <--
PRAI	US 1993-121127		19930914 <--		
	US 1994-283317		19940729 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 5554620	ICM	A61K031-44
	ICS	C07D471-00
	NCL	514278000

OS MARPAT 125:328525
 GI



AB Substituted 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts I. (X-)p are claimed, wherein: R1 is hydrogen, or from one to four, the same or different, substituents in any of the 1, 2, 3, or 4 positions selected

Searched by Noble Jarrell

from the group consisting of, e.g.; lower alkoxy, lower alkyl, halogen, hydroxy; R2 is hydrogen, lower alkyl, cyano or lower-alkoxycarbonyl; R3 and R4 are independently hydrogen, or lower alkyl; or R3 and R4 together form a cycloalkyl ring, or a lower alkylidene group; R5 and R6 are independently hydrogen, Ph, furyl or benzofuryl; or R3 and R5, and/or R4 and R6 taken together with the carbon atoms to which they are attached form a bicyclic ring system; R7 is hydrogen, or from one to four, the same or different, substituents in any of the 7, 8, 9, or 10 positions selected from the group consisting of, e.g., lower alkyl, lower alkanoyloxy, halogen, nitro, hydroxy, lower alkoxy, methylenedioxy; X- is an anion; and, p is zero when R7 is a neg. charged radical and p is one when R7 is other than a neg. charged radical (with provisos); or pharmaceutical compns. containing them for the treatment of neurodegenerative disorders or neurotoxic injuries. Thus, e.g., treatment of 1-indanone with PhLi followed by acid afforded 3-phenyl-1H-indene; 2-pyridinecarboxaldehyde was converted to its ethylene acetal [2-(1,3-dioxolan-2-yl)pyridine], and the latter alkylated with benzyl bromide to afford 2-(1,3-dioxolan-2-yl)-1-benzylpyridinium bromide; cyclization of the latter followed by anion exchange afforded benzo[b]quinolizinium hexafluorophosphate; finally, cycloaddn. reaction of the latter with 3-phenyl-1H-indene afforded an isomeric mixture of 6,11[[2',3']-3'-phenylindanyl]6,11-dihydrobenzo[b]quinolizinium hexafluorophosphate (II/III.PF6-) which exhibited binding to the PCP receptor with $K_i = 7.58$ nM. Data were also presented for antagonism by I of NMDA-induced neurotoxicity in cultured neurons as well as for the protection effect of I in a rat ischemia model.

ST ethanodihydrobenzoquinolizinium salt neurodegenerative disorder neurotoxic injury; benzoquinolizinium ethanodihydro neurodegenerative disorder neurotoxic injury; NMDA antagonist ethanodihydrobenzoquinolizinium salt

IT Nervous system
(disease, degeneration, substituted 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA antagonists useful for the treatment of neurodegenerative disorders or neurotoxic injuries)

IT Neurotransmitter antagonists
(methyl-D-aspartate, substituted 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA antagonists useful for the treatment of neurodegenerative disorders or neurotoxic injuries)

IT Brain, disease
(stroke, treatment; substituted 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA antagonists useful for the treatment of neurodegenerative disorders or neurotoxic injuries)

IT 183183-48-4P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(geometric isomer mixture; substituted 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA antagonists useful for the treatment of neurodegenerative disorders or neurotoxic injuries)

IT 169377-40-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in situ allene precursor; substituted 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA antagonists useful for the treatment of neurodegenerative disorders or neurotoxic injuries)

IT 170484-29-4P 170484-30-7P 170484-44-3P 170484-50-1P 170484-51-2P
170484-58-9P 170484-93-2P 170485-29-7P 170714-30-4P 170714-31-5P
170714-42-8P 170714-49-5P 170714-55-3P 170714-70-2P 170714-71-3P
170897-48-0P 182802-51-3P 182802-52-4P 182802-65-9P 182802-66-0P
182802-68-2P 182802-69-3P 182967-74-4P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(substituted 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA antagonists useful for the treatment of neurodegenerative disorders or neurotoxic injuries)

IT 161227-63-0P 170484-81-8P 170485-37-7P 170485-69-5P 170485-95-7P
170486-26-7P 170486-61-0P 170487-16-8P 170714-64-4P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(substituted 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA antagonists useful for the treatment of neurodegenerative disorders or neurotoxic injuries)

IT 161227-46-9P 161227-47-0P 161227-48-1P 161227-51-6P 161227-53-8P

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 161227-72-1P 161227-73-2P 161227-74-3P 161227-76-5P 161227-78-7P
 161227-80-1P 161227-81-2P 161227-82-3P 161227-83-4P 161227-90-3P
 170484-13-6P 170484-15-8P 170484-17-0P 170484-19-2P 170484-21-6P
 170484-25-0P 170484-27-2P 170484-32-9P 170484-34-1P 170484-39-6P
 170484-41-0P 170484-42-1P 170484-46-5P 170484-47-6P 170484-53-4P
 170484-54-5P 170484-56-7P 170484-60-3P 170484-61-4P 170484-63-6P
 170484-64-7P 170484-66-9P 170484-67-0P 170484-69-2P 170484-76-1P
 170484-77-2P 170484-78-3P 170484-79-4P 170484-83-0P 170484-85-2P
 170484-86-3P 170484-88-5P 170484-89-6P 170484-94-3P 170484-95-4P
 170484-97-6P 170484-98-7P 170485-00-4P 170485-01-5P 170485-03-7P
 170485-05-9P 170485-07-1P 170485-08-2P 170485-10-6P 170485-11-7P
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 182802-75-1P 182803-14-1P 182803-16-3P 182803-17-4P 182803-19-6P
 182967-75-5P 182967-76-6P 182967-77-7P 182967-79-9P 183071-67-2P
 183071-68-3P 183183-46-2P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(substituted 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA antagonists useful for the treatment of neurodegenerative disorders or neurotoxic injuries)

IT 170486-54-1P 182802-18-2P, 1-Acetoxy-1-phenylindan

RL: BYP (Byproduct); PREP (Preparation)

(substituted 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA antagonists useful for the treatment of neurodegenerative disorders or neurotoxic injuries)

IT 75-26-3, Isopropyl bromide 78-95-5, Chloroacetone 79-31-2, Isobutyric acid 83-33-0, 1-Indanone 90-96-0, Bis(p-methoxyphenyl) ketone 90-98-2, Bis(p-chlorophenyl) ketone 95-13-6, Indene 100-11-8, 4-Nitrobenzyl bromide 100-39-0, Benzyl bromide 100-83-4 104-83-6, p-Chlorobenzyl chloride 107-19-7, Propargyl alcohol 108-86-1, reactions 109-72-8, n-Butyllithium, reactions 110-00-9, Furan 110-02-1, Thiophene 111-64-8, Octanoyl chloride 111-83-1, Octyl bromide 112-80-1, 9-Octadecenoic acid (Z)-, reactions 119-61-9, Benzophenone, reactions 119-84-6 127-66-2 271-89-6, Benzofuran 288-36-8, 1,2,3-Triazole 288-42-6, Oxazole 288-88-0, 1H-1,2,4-Triazole 329-15-7, p-Trifluoromethylbenzoyl chloride 345-92-6, Bis(4-fluorophenyl) ketone 372-47-4, 3-Fluoropyridine 459-46-1, 4-Fluorobenzyl bromide 486-25-9, 9-Fluorenone 488-93-7, Furan-3-carboxylic acid 495-76-1, 3,4-Methylenedioxybenzyl alcohol 498-60-2, 3-Furaldehyde 498-62-4, 3-Thiophenecarboxaldehyde 527-72-0, 2-Thienylcarboxylic acid 530-48-3, 1,1-Diphenylethene 586-37-8 589-15-1, p-Bromobenzyl bromide 591-51-5, Phenyllithium 598-21-0, Bromoacetyl bromide 611-97-2, Di-p-tolyl ketone 614-98-2, Ethyl 3-furoate 615-59-8, 2,5-Dibromotoluene 615-74-7, 4-Chloro-3-Hydroxytoluene 626-05-1 626-55-1, 3-Bromopyridine 778-66-5, 1,1-Diphenylprop-1-ene 824-94-2, p-Methoxybenzyl chloride 824-98-6, 3-Methoxybenzyl chloride 872-31-1, 3-Bromothiophene 1003-67-4, 4-Picoline N-oxide 1121-60-4, 2-Pyridinecarboxaldehyde 1122-72-1, 6-Methyl-2-pyridinecarboxaldehyde 1868-00-4, 3,3'-Bis(trifluoromethyl)benzophenone 1929-29-9, 3-(4-Methoxyphenyl)propionic acid 2398-37-0, 3-Bromoanisole 2743-38-6, Dibenzoyl-L-tartaric acid 3034-53-5, 2-Bromothiazole 3042-81-7, Methyl bromophenylacetate 3282-30-2, Trimethylacetyl chloride 3990-03-2, Maleic acid monoethyl ester 5361-46-6 6126-10-9, 1-(p-Toluenesulfonyl)pyrazole 6630-33-7, 2-Bromobenzaldehyde 6971-51-3, 3-Methoxybenzyl alcohol 7035-02-1, o-Methoxybenzyl chloride 7094-34-0, 3,3'-Dichlorobenzophenone

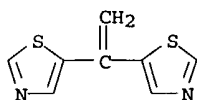
7295-76-3, 3-Methoxypyridine 10599-70-9, 3-Acetyl-2,5-dimethylfuran
 13170-43-9, Trimethylsilylmethylmagnesium chloride 13414-95-4,
 4,5,6,7-Tetrahydrothianaphthen-4-one 14114-05-7,
 Cyclopropyltriphenylphosphonium bromide 14794-31-1 16806-93-2,
 4,5,6,7-Tetrahydrobenzofuran-4-one 17026-42-5, Dibenzoyl-D-tartaric acid
 17347-61-4, 3,3-Dimethylsuccinic anhydride 18507-95-4,
 Benzo[b]quinolizinium perchlorate 18595-18-1, Methyl
 3-amino-4-methylbenzoate 18982-54-2, o-Bromobenzyl alcohol 19524-06-2,
 4-Bromopyridine hydrochloride 22037-28-1, 3-Bromofuran 25032-74-0,
 3,3'-Dibromobenzophenone 27104-73-0, Methyl 3-isoquinolinecarboxylate
 33524-31-1, 2,5-Dimethoxybenzyl alcohol 39193-85-6, 3,3'-
 Dimethoxybenzophenone 39687-95-1, Methyl isocynoacetate 54416-76-1,
 1,1-Di-2-pyridylethene 56643-95-9 62456-33-1 67088-76-0,
 Di(pyrazol-4-yl) ketone 73942-52-6 76513-69-4, 2-
 (Trimethylsilylethoxy)methyl chloride 79265-30-8, 2-
 Trimethylsilylthiazole 87630-35-1, 1-(Triisopropylsilyl)pyrrole
 91272-98-9, 1-(1-Pyrrolidinomethyl)pyrazole 97407-07-3 108153-93-1,
 4,5,6,7-Tetrahydrobenzofuran-7-one 131674-46-9, Bis(2-chloropyridin-3-
 yl)methanol 133560-57-3 141776-91-2, 3,5-Difluorobenzyl bromide
 145162-51-2, 1-(p-Methoxybenzyl)pyrazole 168886-63-3,
 10-Hydroxybenzo[b]quinolizinium bromide 168886-97-3,
 o-Bromo-m-methylbenzyl alcohol 170487-35-1, 4,5,6,7-Tetrahydro-3-
 methylbenzisoxazol-7-one 173730-28-4 182803-24-3, 9-
 Chlorobenzo[b]quinolizinium bromide

RL: RCT (Reactant); RACT (Reactant or reagent)

(substituted 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as
 NMDA antagonists useful for the treatment of neurodegenerative
 disorders or neurotoxic injuries)

IT 349-95-1P, p-Trifluoromethylbenzyl alcohol 402-49-3P,
 p-Trifluoromethylbenzyl bromide 704-38-1P, Di-2-thienyl ketone
 1120-87-2P, 4-Bromopyridine 1488-34-2P, 1,1-Bis(3-methoxyphenyl)ethylene
 1695-36-9P, 9-Fluorobenzo[b]quinolizinium perchlorate 1695-37-0P,
 9-Chlorobenzo[b]quinolizinium perchlorate 1695-38-1P,
 9-Bromobenzo[b]quinolizinium bromide 1849-53-2P, 3-Methoxypyridine-2-
 carboxaldehyde 1961-97-3P, 3-Phenylindene 2642-81-1P,
 1,1-Bis(p-chlorophenyl)ethylene 2919-20-2P, 1,1-Di-p-tolyethylene
 4356-69-8P, 1,1-Bis(p-methoxyphenyl)ethylene 4425-82-5P,
 9-Methylenefluorene 4494-18-2P, 1-Isoquinolinecarboxaldehyde
 5470-80-4P, 3-Isoquinolinecarboxaldehyde 5693-54-9P,
 2-(1,3-Dioxolan-2-yl)pyridine 6175-14-0P, 1,1-Bis(4-fluorophenyl)ethene
 6918-15-6P, Di-4-pyridyl ketone 7547-88-8P, Benzo[b]quinolizinium
 bromide 7547-93-5P, 6-Methylbenzo[b]quinolizinium perchlorate
 7632-57-7P, (Diphenylmethylene)cyclopropane 10605-43-3P,
 1,1-Bis(4-bromophenyl)ethylene 10605-50-2P, 1,1-Bis(m-
 chlorophenyl)ethylene 13336-31-7P, 4-Methoxyindan-1-one 13623-25-1P,
 6-Methoxy-1-indanone 13726-17-5P, 4-Chloro-3-methoxybenzyl alcohol
 14313-09-8P 17920-86-4P, Di-2-furyl ketone 20583-35-1P, Di-5-pyrazolyl
 ketone 23308-82-9P 26066-15-9P, m-Isopropoxybenzyl alcohol
 26453-81-6P, Di-3-thienyl ketone 27104-72-9P, Methyl
 1-isoquinolinecarboxylate 27755-38-0P, 9-Nitrobenzo[b]quinolizinium
 perchlorate 29265-85-8P, 1,1-Bis(3-bromophenyl)ethylene 30782-41-3P,
 1,1-Di-2-thienylethylene 31224-43-8P, 3-Fluoro-2-pyridinecarboxaldehyde
 31794-11-3P, 1-(p-Methoxybenzyl)-1,2,3-triazole 31936-92-2P,
 Di-3-thienylmethanol 34160-40-2P, 6-Bromo-2-pyridinecarboxaldehyde
 35779-35-2P, Di-3-pyridyl ketone 36680-28-1P 38674-98-5P, Octyl
 bromoacetate 40731-98-4P, 4-Hydroxyindan-1-one 42772-87-2P
 50585-79-0P, 10-Nitrobenzo[b]quinolizinium perchlorate 53547-60-7P,
 4-Methylpyridine-2-carboxaldehyde 54356-08-0P 55707-55-6P,
 Di-2-thiazolyl ketone 57803-92-6P, 3-(3-Methoxyphenyl)indene
 71255-11-3P, Bis(2-methoxypyridin-3-yl) ketone 71721-60-3P
 73909-16-7P, 4-Chloro-3-methoxytoluene 74808-20-1P, 4-
 Methylbenzo[b]quinolizinium perchlorate 75792-33-5P,
 3-Isopropoxybenzaldehyde 77605-69-7P, 5-Methoxy-3-phenylindene
 81430-18-4P, 3-Ethoxycarbonyl-3,3-dimethylpropionyl chloride
 85740-98-3P, 4-Chloro-3-methoxybenzoic acid 87630-36-2P,
 3-Bromo-1-triisopropylsilylpyrrole 97360-71-9P, 1-Benzyl-2-(1,3-Dioxolan-
 2-yl)pyridinium bromide 98946-66-8P, 1,1-Di-3-thienylethylene
 104053-68-1P, 6-Methoxy-1-phenyl-indan-1-ol 105399-18-6P,
 1,1-Di(2-furyl)ethylene 107541-66-2P 111588-45-5P 112625-92-0P,
 6-Cyanobenzo[b]quinolizinium perchlorate 115201-42-8P,
 1-(p-Methoxybenzyl)-1,2,4-triazole 118994-84-6P, 4-Oxazolecarboxaldehyde
 121925-55-1P, 3-Ethoxycarbonyl-3,3-dimethylpropionic acid 127158-63-8P,
 Di-3-furyl ketone 130551-90-5P, 1,1-Di(4-oxazolyl)methanol
 131674-48-1P, Bis(2-chloropyridin-3-yl) ketone 136105-40-3P,
 2,5-Dibromobenzyl bromide 148900-66-7P, 3-(N-Methyl-N-
 methoxycarbamoyl)furan 155855-38-2P, 1,1-Bis(m-

trifluoromethylphenyl)ethylene 156600-09-8P, Benzo[b]quinolizinium hexafluorophosphate 156841-32-6P, 1-(3-Methoxyphenyl)indan-1-ol 161227-55-0P 161227-56-1P 161227-57-2P 161227-60-7P 161227-61-8P 161227-64-1P 161227-65-2P 161227-84-5P, 1,1-Di-3-pyridylethene 161227-85-6P, 1,1-Di-4-pyridylethene 161227-86-7P, 1,1-Di-3-furylethene 161227-87-8P, 1,1-Di(5-thiazolyl)ethylene 161227-88-9P, 1,1-Di(4-oxazolyl)ethylene 162468-75-9P 163190-83-8P, 10-Methoxy-6-methylbenzo[b]quinolizinium perchlorate 163190-85-0P, 10-Methoxybenzo[b]quinolizinium perchlorate 163190-87-2P 163190-91-8P, 9,10-Methylenedioxybenzo[b]quinolizinium perchlorate 163190-93-0P 163190-99-6P, 6-Butylbenzo[b]quinolizinium perchlorate 166886-01-7P, 10-Hydroxybenzo[b]quinolizinium perchlorate 166886-03-9P, 10-Acetoxybenzo[b]quinolizinium perchlorate 167075-59-4P 167075-62-9P 167165-98-2P, 9-Chloro-10-hydroxybenzo[b]quinolizinium perchlorate 167166-00-9P, 4-Chlorobenzo[b]quinolizinium perchlorate 167166-38-3P 168886-66-6P, 7-Methoxybenzo[b]quinolizinium hexafluorophosphate 168886-67-7P 168886-69-9P, 9-Methoxybenzo[b]quinolizinium hexafluorophosphate 168886-75-7P, 9-(Trifluoromethyl)benzo[b]quinolizinium hexafluorophosphate 168886-79-1P, 8,10-Difluorobenzo[b]quinolizinium hexafluorophosphate 168886-81-5P, 9-Chlorobenzo[b]quinolizinium chloride 168886-82-6P 168886-83-7P 168886-87-1P 168886-89-3P, 1-Methoxybenzo[b]quinolizinium perchlorate 168886-90-6P 168886-92-8P 168886-98-4P 168887-00-1P, 10-Methylbenzo[b]quinolizinium perchlorate 168887-02-3P, 7,10-Dimethoxybenzo[b]quinolizinium perchlorate 168887-04-5P, 8-Methoxybenzo[b]quinolizinium hexafluorophosphate 168887-08-9P, 2-Methylbenzo[b]quinolizinium perchlorate 169377-19-9P 169377-20-2P 169377-21-3P 169377-22-4P 169377-25-7P 169377-26-8P 169377-27-9P 169377-28-0P 169377-29-1P 169377-33-7P 169377-34-8P, Bis(6-methoxypyridin-2-yl) ketone 169377-36-0P 169377-39-3P 169377-93-9P 169378-39-6P, 4-Methoxy-1-phenyl-indan-1-ol 169378-45-4P, 4-Ethoxy-6,7-dihydrobenzofuran 169378-46-5P 169378-49-8P, Di(5-thiazolyl) ketone 170486-33-6P, 1-(3-Furyl)indan-1-ol 170486-34-7P 170486-38-1P 170486-39-2P 170486-40-5P, 9-Hydroxybenzo[b]quinolizinium bromide 170486-41-6P 170486-43-8P 170486-48-3P 170486-49-4P, Di-4-oxazolyl ketone 170486-50-7P 170486-53-0P, 7,10-Dibromobenzo[b]quinolizinium perchlorate 170486-55-2P 170486-57-4P 170486-59-6P, 1,1-Bis(6-methoxypyridin-2-yl)ethylene 170486-63-2P 170486-65-4P 170486-67-6P 170486-70-1P 170486-71-2P 170486-72-3P 170486-73-4P 170486-74-5P 170486-75-6P 170486-76-7P 170486-78-9P 170486-79-0P, 1,1-Bis(2-methoxypyridin-3-yl)ethylene 170486-80-3P 170486-81-4P 170486-83-6P 170486-84-7P 170486-85-8P 170486-87-0P, 1-Hydroxybenzo[b]quinolizinium perchlorate 170486-88-1P 170486-90-5P 170486-93-8P, 6-(Methoxycarbonyl)benzo[b]quinolizinium perchlorate 170486-97-2P 170486-98-3P 170486-99-4P 170487-00-0P 170487-01-1P 170487-02-2P, 10-(Chloromethyl)benzo[b]quinolizinium perchlorate 170487-04-4P 170487-05-5P 170487-06-6P 170487-07-7P 170487-08-8P 170487-09-9P 170487-10-2P 170487-12-4P 170487-17-9P 170487-19-1P 170487-21-5P 170487-22-6P 170487-23-7P 170487-24-8P, 3-Hydroxybenzo[b]quinolizinium perchlorate 170487-25-9P 170487-29-3P 170487-30-6P 170487-32-8P, 1-Fluorobenzo[b]quinolizinium perchlorate 170487-34-0P 170487-38-4P, Methyl 4-oxazolecarboxylate 170487-39-5P, 2-Cyano-4-methylpyridine N-oxide 170487-40-8P, Methyl indazole-6-carboxylate 182802-19-3P, 7-Methoxy-3-phenylindene 182802-20-6P, 3-(3-Furyl)indene 182802-34-2P 182802-54-6P 182802-62-6P 182802-70-6P 182802-74-0P 182802-83-1P 182802-89-7P 182802-90-0P 182802-91-1P 182802-95-5P 182802-97-7P 182802-98-8P 182803-01-6P 182803-05-0P 182803-08-3P 182803-09-4P 182803-10-7P 182803-11-8P 182803-20-9P 182803-21-0P, 9,10-Methylenedioxybenzo[b]quinolizinium hexafluorophosphate 182803-23-2P 182803-25-4P 182803-26-5P 182803-27-6P 182967-86-8P 182967-87-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (substituted 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA antagonists useful for the treatment of neurodegenerative disorders or neurotoxic injuries)
 IT 161227-87-8P, 1,1-Di(5-thiazolyl)ethylene
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (substituted 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA antagonists useful for the treatment of neurodegenerative disorders or neurotoxic injuries)
 RN 161227-87-8 HCAPLUS
 CN Thiazole, 5,5'-ethenylidenebis- (9CI) (CA INDEX NAME)



=> d all hitstr 152 tot

L52 ANSWER 1 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2002:717057 HCAPLUS
 DN 137:226598
 ED Entered STN: 20 Sep 2002
 TI Dna-cleaving antitumor agents
 IN Kerwin, Sean Michael; David, Wendi M.
 PA Research Development Foundation, USA
 SO U.S. Pat. Appl. Publ., 59 pp., Cont.-in-part of U. S. 6,297,284.
 CODEN: USXXCO
 DT Patent
 LA English
 IC ICM C07C247-00
 ICS A61K031-695; A61K031-655
 NCL 514151000
 CC 1-6 (Pharmacology)
 Section cross-reference(s): 27, 28

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002132797	A1	20020919	US 2001-967133	20010928 <--
	US 6686345	B2	20040203		
	US 6297284	B1	20011002	US 2000-533723	20000323 <--
PRAI	US 1998-93112P	P	19980716	<--	
	US 1999-356303	A2	19990716	<--	
	US 2000-533723	A2	20000323		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2002132797	ICM	C07C247-00
	ICS	A61K031-695; A61K031-655
	NCL	514151000

OS MARPAT 137:226598

AB A chemical composition and method of use of the composition is described. The chemical composition includes an aza-enediyne, aza-enyne allene, or an aza-diallene. These compound are preferably non-hydrolyzable, cationic compds. that bind to nucleic acids. In addition it is believed that these compds. may undergo chemical reactions in the presence of a nucleic acid to generate reactive intermediates that cleave nucleic acids.

ST azaenediyne prepn DNA cleaving antitumor agent; azadiallene prepn DNA cleaving antitumor agent; azaenyne allene prepn DNA cleaving antitumor agent

IT Intercalation

(agents, nucleic acid-interactive; aza-enediynes and aza-enyne allenes and aza-diallenes as DNA-cleaving antitumor agents)

IT Glycosides

RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (amino, nucleic acid-interactive; aza-enediynes and aza-enyne allenes and aza-diallenes as DNA-cleaving antitumor agents)

IT Peptides, biological studies

RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (and peptoids, nucleic acid-interactive; aza-enediynes and aza-enyne allenes and aza-diallenes as DNA-cleaving antitumor agents)

IT Alkylating agents, biological

Antitumor agents
 Drug delivery systems
 Human
 Metalation

(aza-enediynes and aza-enyne allenes and aza-diallenes as DNA-cleaving antitumor agents)

IT Biradicals

DNA
 Nucleic acids
 RNA

RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (aza-enediynes and aza-enyne allenes and aza-diallenes as DNA-cleaving

Searched by Noble Jarrell

antitumor agents)

IT DNA
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (cleavage; aza-enediynes and aza-enyne allenes and aza-diallenes as
 DNA-cleaving antitumor agents)

IT Onium compounds
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (iminium; aza-enediynes and aza-enyne allenes and aza-diallenes as
 DNA-cleaving antitumor agents)

IT Carbohydrates, biological studies
 Crown ethers
 Oligonucleotides
 Oligosaccharides, biological studies
 Peptide nucleic acids
 Porphyrins
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (nucleic acid-interactive; aza-enediynes and aza-enyne allenes and
 aza-diallenes as DNA-cleaving antitumor agents)

IT Neoplasm
 (treatment; aza-enediynes and aza-enyne allenes and aza-diallenes as
 DNA-cleaving antitumor agents)

IT 35070-01-0P 37536-65-5P 325793-43-9P
 RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic
 preparation); THU (Therapeutic use); BIOL (Biological study); PREP
 (Preparation); RACT (Reactant or reagent); USES (Uses)
 (aza-enediynes and aza-enyne allenes and aza-diallenes as DNA-cleaving
 antitumor agents)

IT 255716-41-7P 321200-65-1P 363134-45-6P 363134-46-7P 363134-47-8P
 363134-48-9P 363134-49-0P 363134-51-4P 363134-53-6P 459832-26-9P
 459832-28-1P 459832-30-5P 459832-32-7P 459832-34-9P 459832-36-1P
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
 (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
 (Uses)
 (aza-enediynes and aza-enyne allenes and aza-diallenes as DNA-cleaving
 antitumor agents)

IT 362604-39-5 363134-56-9 363134-57-0
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (aza-enediynes and aza-enyne allenes and aza-diallenes as DNA-cleaving
 antitumor agents)

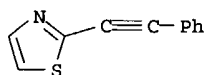
IT 86-81-7, 3,4,5-Trimethoxybenzaldehyde 95-54-5, 1,2-Benzenediamine,
 reactions 100-39-0 109-04-6 136-95-8, 2-Benzothiazolamine 333-27-7
 536-74-3 583-39-1 668-94-0 766-97-2 1066-54-2 2579-22-8
 3034-53-5 4595-60-2 7299-58-3 41029-46-3 186494-67-7 186494-68-8
 459832-21-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (aza-enediynes and aza-enyne allenes and aza-diallenes as DNA-cleaving
 antitumor agents)

IT 1123-99-5P 13141-42-9P 16344-79-9P 34657-82-4P 49572-60-3P
 54624-57-6P 69045-24-5P 69696-00-0P 86521-05-3P 161885-73-0P
 186494-69-9P 220079-65-2P 321200-63-9P 362604-08-8P 362604-13-5P
 362604-45-3P 362604-48-6P 362604-49-7P 362604-50-0P 459832-17-8P
 459832-23-6P 459832-24-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (aza-enediynes and aza-enyne allenes and aza-diallenes as DNA-cleaving
 antitumor agents)

IT 321200-62-8P 362604-46-4P 362604-47-5P 363134-54-7P 363134-55-8P
 459832-22-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (aza-enediynes and aza-enyne allenes and aza-diallenes as DNA-cleaving
 antitumor agents)

IT 35070-01-0P
 RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic
 preparation); THU (Therapeutic use); BIOL (Biological study); PREP
 (Preparation); RACT (Reactant or reagent); USES (Uses)
 (aza-enediynes and aza-enyne allenes and aza-diallenes as DNA-cleaving
 antitumor agents)

RN 35070-01-0 HCAPLUS
 CN Thiazole, 2-(phenylethynyl)- (9CI) (CA INDEX NAME)



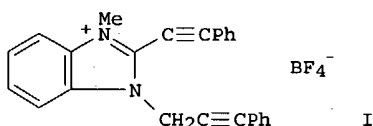
L52 ANSWER 2 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2001:721442 HCAPLUS
 DN 135:272958
 ED Entered STN: 03 Oct 2001
 TI Preparation of aza-enediynes, aza-ene-yne allenes, or aza-diallenes as
 DNA-cleaving antitumor agents
 IN Kerwin, Sean Michael; David, Wendi M.; Kumar, Dalip
 PA Research Development Foundation, USA
 SO U.S., 59 pp., Cont.-in-part of U.S. Ser. No. 356,303.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM A61K031-13
 NCL 514638000
 CC 28-9 (Heterocyclic Compounds (More Than One Hetero Atom))
 Section cross-reference(s): 1, 27
 FAN.CNT 4

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6297284	B1	20011002	US 2000-533723	20000323 <--
WO 2001070217	A1	20010927	WO 2001-US9334	20010322
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 2002132797	A1	20020919	US 2001-967133	20010928 <--
US 6686345	B2	20040203		
PRAI US 1998-93112P	P	19980716	<--	
US 1999-356303	A2	19990716	<--	
US 2000-533723	A	20000323		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6297284	ICM	A61K031-13
	NCL	514638000

OS MARPAT 135:272958
 GI



AB A chemical composition and method of use of the composition is described. The chemical composition includes an aza-enediyne, aza-ene-yne allene, or an aza-diallene. These compound are preferably non-hydrolyzable, cationic compds. that bind to nucleic acids. In addition it is believed that these compds. may undergo chemical reactions in the presence of a nucleic acid to generate reactive intermediates that cleave nucleic acids. E.g., AZB-002 (I) was prepared

ST aza enediyne prepn DNA cleaving antitumor agent; enyne allene aza prepn DNA cleaving antitumor agent; diallene aza prepn DNA cleaving antitumor agent; DNA cleaving antitumor agent aza enyne

IT Allenes
 Ene-diynes
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (aza-; preparation of aza-enediynes, aza-ene-yne allenes, or aza-diallenes as DNA-cleaving antitumor agents)

IT Antitumor agents
(preparation of aza-enediynes, aza-enyne allenes, or aza-diallenes as DNA-cleaving antitumor agents)

IT DNA
RL: BSU (Biological study, unclassified); MSC (Miscellaneous); BIOL (Biological study)
(preparation of aza-enediynes, aza-enyne allenes, or aza-diallenes as DNA-cleaving antitumor agents)

IT 37536-65-5P 321200-63-9P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of aza-enediynes, aza-enyne allenes, or aza-diallenes as DNA-cleaving antitumor agents)

IT 186494-69-9P 186494-70-2P 255716-41-7P 321200-62-8P 321200-65-1P
321200-67-3P 362604-49-7P 363134-45-6P 363134-46-7P 363134-47-8P
363134-48-9P 363134-49-0P 363134-51-4P 363134-53-6P 363134-54-7P
363134-55-8P 363134-56-9P 363134-57-0P 363134-58-1P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of aza-enediynes, aza-enyne allenes, or aza-diallenes as DNA-cleaving antitumor agents)

IT 95-54-5, o-Phenylenediamine 109-04-6, 2-Bromopyridine
136-95-8, 2-Benzothiazolamine 536-74-3, Phenylacetylene 583-39-1
668-94-0, 766-97-2, p-Tolylacetylene 1066-54-2, Trimethylsilylacetylene
2579-22-8, 3-Phenylpropynal 3034-53-5 4440-01-1, Lithium
phenylacetylde 4595-60-2, 2-Bromopyrimidine 7299-58-3 23402-78-0
41029-46-3 77242-15-0 89343-06-6, Triisopropylsilylacetylene
255716-39-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aza-enediynes, aza-enyne allenes, or aza-diallenes as DNA-cleaving antitumor agents)

IT 1123-99-5P 13141-42-9P 34657-82-4P 35070-01-0P 49572-60-3P
54624-57-6P 69045-24-5P 69696-00-0P 161885-73-0P 201489-34-1P
220079-65-2P 255390-20-6P 255390-21-7P 255390-22-8P 255390-23-9P
325793-43-9P 362604-08-8P 362604-11-3P 362604-13-5P 362604-45-3P
362604-46-4P 362604-48-6P 362604-50-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of aza-enediynes, aza-enyne allenes, or aza-diallenes as DNA-cleaving antitumor agents)

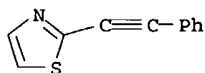
RE.CNT. 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Buntin; Macromolecules 1996, V29, P2885 HCAPLUS
(2) Kouvetakis; Chem Mater 1994, V6, P636 HCAPLUS
(3) Lavoie; US 5767142 1998 HCAPLUS

IT 35070-01-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of aza-enediynes, aza-enyne allenes, or aza-diallenes as DNA-cleaving antitumor agents)

RN 35070-01-0 HCAPLUS

CN Thiazole, 2-(phenylethynyl)- (9CI) (CA INDEX NAME)



LS2 ANSWER 3 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:713131 HCAPLUS

DN 135:267214

ED Entered STN: 28 Sep 2001

TI Aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving antitumor agents

IN Kerwin, Sean Michael; David, Wendi M.; Kumar, Dalip

PA Research Development Foundation, USA

SO PCT Int. Appl., 115 pp.
CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K031-13

ICS A61K031-415
 CC 1-6 (Pharmacology)
 Section cross-reference(s): 25, 27, 28, 63

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001070217	A1	20010927	WO 2001-US9334	20010322
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	US 6297284	B1	20011002	US 2000-533723	20000323 <--
PRAI	US 2000-533723	A	20000323		
	US 1998-93112P	P	19980716	<--	
	US 1999-356303	A2	19990716	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2001070217	ICM	A61K031-13
	ICS	A61K031-415

OS MARPAT 135:267214

AB A chemical composition and method of use of the composition is described. The chemical composition includes an aza-enediyne, aza-enyne allene, or an aza-diallene. These compds. are preferably non-hydrolyzable, cationic compds. that bind to nucleic acids. In addition it is believed that these compds. may undergo chemical reactions in the presence of a nucleic acid to generate reactive intermediates that cleave nucleic acids. Compound preparation is described.

ST azaenediyne DNA cleaving antitumor agent prepn; azaenyne allene DNA cleaving antitumor agent prepn; azadiallene DNA cleaving antitumor agent prepn

IT Intercalation

(agents, nucleic acid-interactive; aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving antitumor agents)

IT Glycosides

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(amino, nucleic acid-interactive; aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving antitumor agents)

IT Peptides, biological studies

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(and peptoids, nucleic acid-interactive; aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving antitumor agents)

IT Alkylating agents, biological

Antitumor agents

Drug delivery systems

Metalation

(aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving antitumor agents)

IT Biradicals

DNA

Nucleic acids

RNA

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving antitumor agents)

IT DNA

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(cleavage; aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving antitumor agents)

IT Onium compounds

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(iminium; aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving antitumor agents)

IT Antitumor agents

(lung non-small-cell carcinoma, A549 cell; aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving antitumor agents)

- IT Antitumor agents
(lymphoma; aza-enediyne, aza-enyne allene, and aza-diallene
DNA-cleaving antitumor agents)
- IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
(Biological study); PROC (Process)
(mdm-2; aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving
antitumor agents)
- IT Lung, neoplasm
(non-small-cell carcinoma, inhibitors, A549 cell; aza-enediyne,
aza-enyne allene, and aza-diallene DNA-cleaving antitumor agents)
- IT Carbohydrates, biological studies
Crown ethers
Oligonucleotides
Oligosaccharides, biological studies
Peptide nucleic acids
Porphyrins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
(Biological study); PROC (Process)
(nucleic acid-interactive; aza-enediyne, aza-enyne allene, and
aza-diallene DNA-cleaving antitumor agents)
- IT 325793-43-9P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological
study, unclassified); PRP (Properties); RCT (Reactant); SPN (Synthetic
preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant
or reagent)
(aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving
antitumor agents)
- IT 362604-18-0P 362604-21-5P 362604-26-0P 362604-30-6P 362604-32-8P
362604-35-1P 362604-37-3P 363134-47-8P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological
study, unclassified); PRP (Properties); SPN (Synthetic preparation); THU
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
(Uses)
(aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving
antitumor agents)
- IT 37536-65-5P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological
study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU
(Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT
(Reactant or reagent); USES (Uses)
(aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving
antitumor agents)
- IT 186494-68-8P 186494-69-9P 255716-41-7P 362604-40-8P 362604-44-2P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological
study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);
BIOL (Biological study); PREP (Preparation); USES (Uses)
(aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving
antitumor agents)
- IT 321200-65-1 362604-39-5 362604-42-0
RL: BAC (Biological activity or effector, except adverse); BSU (Biological
study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES
(Uses)
(aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving
antitumor agents)
- IT 220079-65-2P 362604-08-8P 362604-11-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving
antitumor agents)
- IT 260359-31-7P 362604-46-4P 362604-47-5P 362604-49-7P 362604-50-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving
antitumor agents)
- IT 35070-01-0P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological
study, unclassified); PRP (Properties); RCT (Reactant); SPN (Synthetic
preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant
or reagent)
(preparation and reaction; aza-enediyne, aza-enyne allene, and aza-diallene
DNA-cleaving antitumor agents)
- IT 13141-42-9P 49572-60-3P 54624-57-6P 69696-00-0P 161885-73-0P
186494-63-3P 186494-66-6P 186494-72-4P 321200-63-9P 362604-13-5P
362604-45-3P 362604-48-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

(preparation and reaction; aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving antitumor agents)

IT 362604-15-7P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (reaction; aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving antitumor agents)

IT 95-54-5, 1,2-Benzenediamine, reactions 98-59-9 109-04-6 124-63-0, Methanesulfonyl chloride 136-95-8, 2-Benzothiazolamine 431-47-0 536-74-3 583-39-1 766-97-2 1066-54-2 1123-99-5 2579-22-8 3034-53-5 4440-01-1 4595-60-2 7299-58-3 7556-82-3 23402-78-0 24424-99-5 34657-82-4 69045-24-5 77242-15-0 89343-06-6 186494-67-7 255716-39-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction; aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving antitumor agents)

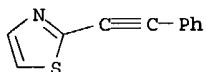
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
 (1) Bunten; Macromolecules 1996, V29(8), P2885 HCAPLUS
 (2) Kouvetakis; Chem Mater 1994, V6(5), P636 HCAPLUS
 (3) La Voie; US 5767142 A 1998 HCAPLUS

IT 35070-01-0P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction; aza-enediyne, aza-enyne allene, and aza-diallene DNA-cleaving antitumor agents)

RN 35070-01-0 HCAPLUS

CN Thiazole, 2-(phenylethynyl)- (9CI) (CA INDEX NAME)



L52 ANSWER 4. OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:276336 HCAPLUS

DN 133:17553

ED Entered STN: 28 Apr 2000

TI Additional cycle formation from 2-dialkoxyphosphonylmethylthiazole

AU Baimashev, B. A.; Polezhaeva, N. A.; Klimovitskii, E. N.

CS A.M. Butlerov Research Chemical Institute, Kasan State University, Kasan, 420008, Russia

SO Phosphorus, Sulfur and Silicon and the Related Elements (1998), 132, 251-257

CODEN: PSSLEC; ISSN: 1042-6507

PB Gordon & Breach Science Publishers

DT Journal

LA English

CC 29-7 (Organometallic and Organometalloidal Compounds)
 Section cross-reference(s): 28

OS CASREACT 133:17553

AB Diisopropoxyphosphonyl-2-(4-methylthiazolyl)methane reacts with carbonyl and .alpha.-halocarbonyl compds. by three routes. In the case of Knoevenagel or Horner-Wadsworth-Emmons reactions the corresponding ethylenes were produced, whereas employing .alpha.-halocarbonyls as partners resulted in pyrrolo[2.1b]thiazoles. 1-Phosphonyl-1-(2-thiazolyl)-ethylene undergoes smoothly [4+2] and [3+2] cycloaddn. reactions.

ST alkoxy phosphonylmethyl thiazole Knoevenagel Horner Wadsworth Emmons reaction; carbonyl halocarbonyl compd reaction diisopropoxyphosphonyl methylthiazolyl methane; phosphonyl thiazolyl ethylene cycloaddn reaction; pyrrolo thiazole prepn

IT Horner Wadsworth Emmons reaction
 Knoevenagel reaction
 (of diisopropoxyphosphonyl methylthiazolyl methane)

IT Cycloaddition reaction
 (of phosphonyl thiazolyl ethylene)

IT 169828-37-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (cycloaddn. reaction of)

IT 542-92-7, Cyclopentadiene, reactions 6832-16-2, Methyl diazoacetate

RL: RCT (Reactant); RACT (Reactant or reagent)
(cycloaddn. reaction with phosphonyl thiazolyl ethylene)

IT 272790-63-3P 272790-64-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and cyclization of)

IT 24622-44-4P 272790-59-7P 272790-60-0P 272790-61-1P
272790-62-2P 272790-65-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

IT 148901-76-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with carbonyl and halocarbonyl compds.)

IT 70-11-1, Phenacyl bromide 100-52-7, Benzaldehyde, reactions 598-31-2,
Bromoacetone
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with diisopropoxyphosphonyl methylthiazolyl methane)

IT 110-89-4, Piperidine, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with thiazolium salt)

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD

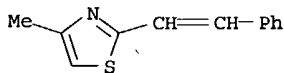
RE

- (1) Anon; The chemistry of heterocyclic compounds 1956
- (2) Baimashev, B; Zhur Obshch Khim 1995, V65, P522 HCAPLUS
- (3) Baimashev, B; Zhur: Obshch Khim 1993, V63, P219 HCAPLUS
- (4) Corey, E; Tetrahedron Lett 1976, P4041
- (5) Dondoni, A; Tetrahedron 1988, V44, P2021 HCAPLUS
- (6) Mikolajczyk, M; Tetrahedron: Asymmetry 1992, V3, P1515 HCAPLUS
- (7) Minami, T; Phosphorus, Sulfur and Silicon 1993, V75, P135 HCAPLUS
- (8) Nugent, R; J Med Chem 1993, V36, P134 HCAPLUS
- (9) Page, P; Phosphorus, Sulfur and Silicon 1992, V70, P205 HCAPLUS
- (10) Sturtz, G; Eur J Med Chem 1992, V27, P825 HCAPLUS
- (11) Sturtz, G; Eur J Med Chem 1993, V28, P899 HCAPLUS
- (12) Vernin, G; The Chemistry of Heterocyclic Compounds, Part III: General
Synthetic Methods for Thiazole and Thiazolium Salts 1979, V34, P165 HCAPLUS

IT 24622-44-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 24622-44-4 HCAPLUS

CN Thiazole, 4-methyl-2-(2-phenylethenyl)- (9CI) (CA INDEX NAME)



L52 ANSWER 5 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:213402 HCAPLUS

DN 125:247714

ED Entered STN: 13 Apr 1996

TI An unusual dependency of counterion during Wittig methylenation of
bisheteroaryl ketones. [Erratum to document cited in CA124:175972]

AU Subramanyam, C.

CS Dep. Medicinal Chemistry, Sanofi Research Div., Malvern, PA, 19355, USA

SO Tetrahedron Letters (1996), 37(14), 2315
CODEN: TELEAY; ISSN: 0040-4039

PB Elsevier

DT Journal

LA English

CC 28-10 (Heterocyclic Compounds (More Than One Hetero Atom))

AB Fig. 7a-c is corrected The errors were not reflected in the abstract or the
index entries.

ST erratum Wittig methylenation bisheteroaryl ketone counterion; Wittig
methylenation bisheteroaryl ketone counterion erratum; methylenation
bisheteroaryl ketone counterion effect erratum; methylphosphonium bromide
Wittig heteroaryl ketone erratum

IT Wittig reaction
(dependency of counterion during Wittig methylenation of bis-heteroaryl
ketones (Erratum))

IT Ketones, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(dependency of counterion during Wittig methylenation of bis-heteroaryl
ketones (Erratum))

IT 173730-26-2P

RL: BYP (Byproduct); PREP (Preparation)
 (dependency of counterion during Wittig methylenation of bis-heteroaryl ketones (Erratum))

IT 1779-49-3, Methyltriphenylphosphonium bromide 19437-26-4,
 Bis(2-pyridyl)ketone 55707-55-6 161227-64-1 162468-75-9
 169377-36-0 169378-49-8 170486-73-4

RL: RCT (Reactant); RACT (Reactant or reagent)
 (dependency of counterion during Wittig methylenation of bis-heteroaryl ketones (Erratum))

IT 54416-76-1P 115201-42-8P 161227-65-2P 161227-87-8P
 170486-63-2P 173730-27-3P 173730-28-4P

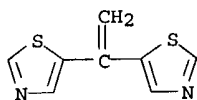
RL: SPN (Synthetic preparation); PREP (Preparation)
 (dependency of counterion during Wittig methylenation of bis-heteroaryl ketones (Erratum))

IT 161227-87-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (dependency of counterion during Wittig methylenation of bis-heteroaryl ketones (Erratum))

RN 161227-87-8 HCAPLUS

CN Thiazole, 5,5'-ethenylidenebis- (9CI) (CA INDEX NAME)



L52 ANSWER 6 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:5391 HCAPLUS

DN 124:175972

ED Entered STN: 02 Jan 1996

TI An unusual dependency of counterion during Wittig methylenation of bis-heteroaryl ketones

AU Subramanyam, Chakrapani

CS Dep. Medicinal Chemistry, Sanofi Research Div., Malvern, PA, 19355, USA

SO Tetrahedron Letters (1995), 36(51), 9249-52

CODEN: TELEAY; ISSN: 0040-4039

PB Elsevier

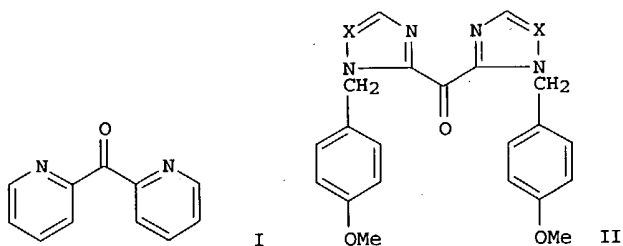
DT Journal

LA English

CC 28-10 (Heterocyclic Compounds (More Than One Hetero Atom))

OS CASREACT 124:175972

GI



AB Attempted Wittig methylenation of some bis-heteroarom. ketones, e.g. I and II (X = N, CH), using MeP+Ph3Br- and n-BuLi gave none of the desired olefin. However, when tBuOK was used as the base for generation of the ylide, efficient olefination of these ketones was observed. A possible mechanistic pathway for this interesting but unprecedented observation is proposed.

ST Wittig methylenation bis-heteroaryl ketone counterion effect; methylphosphonium bromide Wittig heteroaryl ketone

IT Wittig reaction
 (dependency of counterion during Wittig methylenation of bis-heteroaryl ketones)

IT Ketones, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(dependency of counterion during Wittig methylenation of bis-heteroaryl ketones)

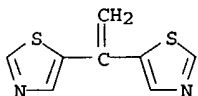
IT 173730-26-2P
 RL: BYP (Byproduct); PREP (Preparation)
 (dependency of counterion during Wittig methylenation of bis-heteroaryl ketones)

IT 1779-49-3, Methyltriphenylphosphonium bromide 19437-26-4,
 Bis(2-pyridyl)ketone 55707-55-6 161227-64-1 162468-75-9
 169377-36-0 169378-49-8 170486-73-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (dependency of counterion during Wittig methylenation of bis-heteroaryl ketones)

IT 54416-76-1P 115201-42-8P 161227-65-2P 161227-87-8P
 170486-63-2P 173730-27-3P 173730-28-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (dependency of counterion during Wittig methylenation of bis-heteroaryl ketones)

IT 161227-87-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (dependency of counterion during Wittig methylenation of bis-heteroaryl ketones)

RN 161227-87-8 HCAPLUS
 CN Thiazole, 5,5'-ethenylidenebis- (9CI) (CA INDEX NAME)



L52 ANSWER 7 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1995:928116 HCAPLUS
 DN 123:339769
 ED Entered STN: 18 Nov 1995
 TI Preparation of 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA
 receptor antagonists
 IN DeHaven-Hudkins, Diane L.; Dority, John A., Jr.; Earley, William G.;
 Kumar, Virendra; Mallamo, John P.; Miller, Matthew S.; Subramanyam,
 Chakrapani
 PA Sterling Winthrop Inc., USA
 SO Can. Pat. Appl., 220 pp.
 CODEN: CPXXEB
 DT Patent
 LA English
 IC ICM C07D455-00
 ICS C07D519-00; C07F007-10; C07F009-547; A61K031-47; A61K031-495;
 A61K031-535; A61K031-675; A61K031-695
 CC 27-18 (Heterocyclic Compounds (One Hetero Atom))
 Section cross-reference(s): 1

FAN.CNT 2

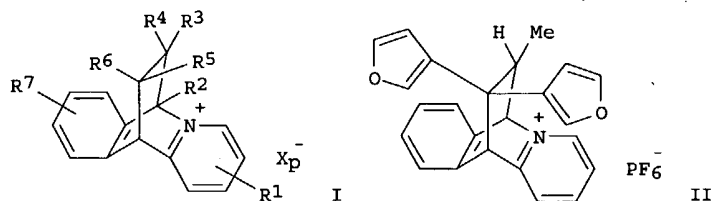
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CA 2131966	AA	19950315	CA 1994-2131966	19940913 <--
US 5554620	A	19960910	US 1994-283317	19940729 <--
PRAI US 1993-121127		19930914	<--	
US 1994-283317		19940729	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
CA 2131966	ICM	C07D455-00
	ICS	C07D519-00; C07F007-10; C07F009-547; A61K031-47; A61K031-495; A61K031-535; A61K031-675; A61K031-695

OS MARPAT 123:339769

GI



AB Title compds. (I; R1,R7 = H, halo, alkyl, alkoxy, etc.; R2 = H, alkyl, cyano, alkoxy, carbonyl; R3,R4 = H, alkyl; R3R4 = alkylidene, alkylene; R5,R6 = Ph, heteroaryl, heterocyclyl, etc.; R3R5,R4R6 = atoms to form a bicyclic ring system; X- = anion; p = 0 when R7 is neg. charged; p = 1 when R7 is not neg. charged) were prepared. Thus, 1,1-bis(3-furyl)propene was cyclocondensed with benzo[b]quinolizinium hexafluorophosphate (preparation each given) to give, as 1 of 2 regioisomers, title compound II which had IC50 of 11.4nM against NMDA-induced neurotoxicity in cultured neurons in vitro.

ST benzoquinolizinium ethanodihydro NMDA receptor antagonist

IT Nervous system

(disease, degeneration, treatment; preparation of 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA receptor antagonists)

IT Toxicity

(neurotoxicity, treatment; preparation of 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA receptor antagonists)

IT 170484-90-9P 170484-91-0P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA receptor antagonists)

IT	161227-90-3P	170484-21-6P	170484-23-8P	170484-34-1P	170484-41-0P
	170484-46-5P	170484-49-8P	170484-53-4P	170484-56-7P	170484-58-9P
	170484-63-6P	170484-66-9P	170484-71-6P	170484-74-9P	170484-76-1P
	170484-81-8P	170484-83-0P	170484-85-2P	170484-88-5P	170484-93-2P
	170484-94-3P	170484-97-6P	170485-00-4P	170485-03-7P	170485-05-9P
	170485-07-1P	170485-10-6P	170485-17-3P	170485-19-5P	170485-26-4P
	170485-27-5P	170485-31-1P	170485-34-4P	170485-37-7P	170485-40-2P
	170485-43-5P	170485-48-0P	170485-51-5P	170485-61-7P	170485-66-2P
	170485-69-5P	170485-77-5P	170485-81-1P	170485-84-4P	170485-88-8P
	170485-93-5P	170485-97-9P	170485-99-1P	170486-02-9P	170486-06-3P
	170486-11-0P	170486-18-7P	170486-37-0P	170714-32-6P	170714-33-7P
	170714-70-2P	170897-48-0P			

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(preparation of 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA receptor antagonists)

IT	161227-46-9P	161227-47-0P	161227-48-1P	161227-49-2P	161227-51-6P
	161227-53-8P	161227-54-9P	161227-68-5P	161227-69-6P	161227-70-9P
	161227-71-0P	161227-72-1P	161227-73-2P	161227-74-3P	161227-76-5P
	161227-78-7P	161227-80-1P	161227-81-2P	161227-82-3P	161227-83-4P
	170484-13-6P	170484-15-8P	170484-17-0P	170484-19-2P	170484-25-0P
	170484-27-2P	170484-29-4P	170484-30-7P	170484-32-9P	170484-37-4P
	170484-39-6P	170484-42-1P	170484-44-3P	170484-47-6P	170484-50-1P
	170484-51-2P	170484-54-5P	170484-60-3P	170484-61-4P	170484-64-7P
	170484-67-0P	170484-69-2P	170484-72-7P	170484-77-2P	170484-78-3P
	170484-79-4P	170484-86-3P	170484-89-6P	170484-95-4P	170484-98-7P
	170485-01-5P	170485-08-2P	170485-11-7P	170485-13-9P	170485-15-1P
	170485-20-8P	170485-22-0P	170485-24-2P	170485-29-7P	170485-32-2P
	170485-35-5P	170485-38-8P	170485-41-3P	170485-45-7P	170485-46-8P
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	170485-59-3P	170485-62-8P	170485-63-9P	170485-64-0P	170485-67-3P
	170485-70-8P	170485-71-9P	170485-72-0P	170485-73-1P	170485-75-3P
	170485-78-6P	170485-79-7P	170485-82-2P	170485-85-5P	170485-86-6P
	170485-89-9P	170485-91-3P	170485-94-6P	170485-95-7P	170486-00-7P
	170486-03-0P	170486-04-1P	170486-08-5P	170486-09-6P	170486-12-1P
	170486-14-3P	170486-15-4P	170486-16-5P	170486-19-8P	170486-21-2P
	170486-23-4P	170486-24-5P	170486-26-7P	170486-27-8P	170486-29-0P
	170486-31-4P	170486-95-0P	170714-30-4P	170714-31-5P	170714-35-9P

170714-37-1P 170714-39-3P 170714-41-7P 170714-42-8P 170714-43-9P
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 170714-55-3P 170714-57-5P 170714-59-7P 170714-61-1P 170714-63-3P
 170714-64-4P 170714-66-6P 170714-68-8P 170714-71-3P 170714-73-5P
 170897-45-7P 170897-46-8P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

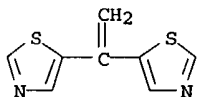
(preparation of 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA receptor antagonists)

IT 75-26-3, Isopropyl bromide 78-95-5, Chloroacetone 79-31-2, Isobutyric acid 83-33-0, 1-Indanone 90-96-0, Di-(4-methoxyphenyl) ketone 90-98-2, Di-(4-chlorophenyl) ketone 95-13-6, Indene 100-11-8, 4-Nitrobenzyl bromide 100-39-0, Benzyl bromide 100-83-4, 3-Hydroxybenzaldehyde 107-19-7, Propargyl alcohol 108-86-1, Bromobenzene, reactions 110-00-9, Furan 111-64-8, Octanoyl chloride 111-83-1, Octyl bromide 111-87-5, 1-Octanol, reactions 119-61-9, Benzophenone, reactions 119-84-6 271-89-6, Benzofuran 288-42-6, Oxazole 329-15-7, 4-Trifluoromethylbenzoyl chloride 345-92-6 372-47-4, 3-Fluoropyridine 459-46-1, 4-Fluorobenzyl bromide 486-25-9, 9-Fluorenone 486-73-7, 1-Isoquinolinecarboxylic acid 488-93-7, Furan-3-carboxylic acid 495-76-1, 3,4-Methylenedioxybenzyl alcohol 527-72-0, Thiophene-2-carboxylic acid 530-48-3, 1,1-Diphenylethylene 586-37-8 591-51-5, Phenyllithium 611-97-2, Di-(p-tolyl) ketone 614-98-2, Ethyl 3-furoate 615-59-8, 2,5-Dibromotoluene 615-74-7, 2-Chloro-5-methylphenol 626-05-1, 2,6-Dibromopyridine 626-55-1, 3-Bromopyridine 778-66-5, 1,1-Diphenyl-1-propene 824-94-2, 4-Methoxybenzyl chloride 872-31-1, 3-Bromothiophene 1003-67-4, 4-Picoline N-oxide 1121-60-4, 2-Pyridinecarboxaldehyde 1122-72-1 1849-53-2 1868-00-4, 3,3'-Bis(trifluoromethyl)benzophenone 1929-29-9, 3-(4-Methoxyphenyl)propionic acid 2398-37-0, 3-Bromoanisole 2743-38-6, Dibenzoyl-L-tartaric acid 3034-53-5, 2-Bromothiazole 3042-81-7, Methyl .alpha.-bromophenylacetate 6126-10-9, 1-(p-Toluenesulfonyl)pyrazole 6630-33-7, 2-Bromobenzaldehyde 6971-51-3, 3-Methoxybenzyl alcohol 7094-34-0, Di-(3-chlorophenyl) ketone 10599-70-9 13414-95-4 14114-05-7, Cyclopropyl triphenylphosphonium bromide 14794-31-1 16806-93-2, 4,5,6,7-Tetrahydrobenzofuran-4-one 17026-42-5, Dibenzoyl-D-tartaric acid 18595-18-1 19524-06-2, 4-Bromopyridine hydrochloride 22037-28-1, 3-Bromofuran 25032-74-0 27104-73-0, Methyl 3-isoquinolinecarboxylate 33524-31-1, 2,5-Dimethoxybenzyl alcohol 39193-85-6 54416-76-1, 1,1-Bis(2-pyridyl)ethene 56643-95-9, 1-(4-Methoxybenzyl)imidazole 62456-33-1 67088-76-0, Di-(4-pyrazolyl) ketone 73942-52-6 79265-30-8, 2-(Trimethylsilyl)thiazole 91272-98-9 97407-07-3 108153-93-1, 4,5,6,7-Tetrahydrobenzofuran-7-one 131674-46-9 133560-57-3 141776-91-2, 3,5-Difluorobenzyl bromide 145162-51-2, 1-(4-Methoxybenzyl)pyrazole 168886-97-3 170487-35-1

RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA receptor antagonists)

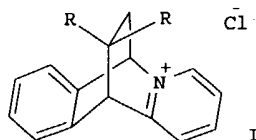
IT 349-95-1P, 4-(Trifluoromethyl)benzyl alcohol 402-49-3P, 4-(Trifluoromethyl)benzyl bromide 704-38-1P, Di-(2-thienyl) ketone 1120-87-2P, 4-Bromopyridine 1488-34-2P, 1,1-Bis(3-methoxyphenyl)ethene 1586-16-9P 1586-54-5P 1695-36-9P 1695-37-0P 1695-38-1P 1961-96-2P, 1-Phenylindene 2642-81-1P, 1,1-Bis(4-chlorophenyl)ethene 2919-20-2P, 1,1-Bis(4-methylphenyl)ethene 4356-69-8P, 1,1-Bis(4-methoxyphenyl)ethene 4425-82-5P, 9-Methylene fluorene 4494-18-2P, 1-Isoquinolinecarboxaldehyde 5470-80-4P, 3-Isoquinolinecarboxaldehyde 5693-54-9P 6175-14-0P, 1,1-Bis(4-fluorophenyl)ethene 6918-15-6P, Di-(4-pyridyl) ketone 7547-88-8P, Benzo[b]quinolizinium bromide 7547-93-5P 7632-57-7P, (Diphenylmethylene)cyclopropane 10605-43-3P, 1,1-Bis(4-bromophenyl)ethene 10605-50-2P 13336-31-7P, 4-Methoxy-1-indanone 13623-25-1P, 6-Methoxy-1-indanone 13726-17-5P 17920-86-4P, Di-(2-furyl) ketone 20583-35-1P, Di-(5-pyrazolyl) ketone 23308-82-9P, 3-Methoxy-.alpha.-methylbenzyl alcohol 26066-15-9P 26453-81-6P, Di-(3-thienyl) ketone 27104-72-9P, Methyl 1-isoquinolinecarboxylate 27755-38-0P 29265-85-8P, 1,1-Bis(3-bromophenyl)ethene 30078-67-2P, 1-(3-Furyl)-1-propanone 30782-41-3P, 1,1-Bis(2-thienyl)ethene 31224-43-8P 31794-11-3P 31936-92-2P, Di-(3-thienyl)methanol 32980-28-2P 34160-40-2P 35779-35-2P, Di-(3-pyridyl) ketone 38674-98-5P 40731-98-4P, 4-Hydroxy-1-indanone 42772-87-2P 50585-79-0P 53547-60-7P, 4-Methylpyridine-2-carboxaldehyde 54356-08-0P 55707-55-6P, Di-(2-thiazolyl) ketone 71255-11-3P 71721-60-3P 73909-16-7P, 2-Chloro-5-methylanisole 74808-20-1P 75792-33-5P, 3-Isopropoxybenzaldehyde 85740-98-3P 87630-36-2P 97360-71-9P 97437-74-6P 98946-66-8P, 1,1-Bis(3-thienyl)ethene 104053-68-1P

105399-18-6P, 1,1-Bis(2-furyl)ethene 112625-92-0P 115201-42-8P,
 1-(4-Methoxybenzyl)-1,2,4-triazole 118994-84-6P, 4-Oxazolecarboxaldehyde
 127158-63-8P 130551-90-5P 131674-48-1P 136105-40-3P 147643-74-1P
 148900-66-7P 155855-38-2P, 1,1-Bis(3-trifluoromethylphenyl)ethene
 156600-09-8P, Benzo[b]quinolizinium hexafluorophosphate 156841-32-6P
 161227-55-0P 161227-56-1P 161227-57-2P 161227-60-7P 161227-61-8P
 161227-63-0P 161227-64-1P 161227-65-2P 161227-84-5P,
 1,1-Bis(3-pyridyl)ethene 161227-85-6P, 1,1-Bis(4-pyridyl)ethene
 161227-86-7P, 1,1-Bis(3-furyl)ethene 161227-87-8P,
 1,1-Bis(5-thiazolyl)ethene 161227-88-9P 162468-75-9P 163190-83-8P
 163190-85-0P 163190-87-2P 163190-91-8P 163190-93-0P 163190-99-6P
 166886-01-7P 166886-03-9P 167165-98-2P 167166-00-9P 167166-38-3P
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 169377-93-9P 169378-38-5P, 1-Phenyl-6-methoxyindene 169378-40-9P,
 1-Phenyl-4-methoxyindene 169378-42-1P, 1-(3-Methoxyphenyl)indene
 169378-44-3P, 1-(3-Furyl)indene 169378-45-4P, 4-Ethoxy-6,7-
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 170487-32-8P 170487-34-0P 170487-36-2P, Monopotassium
 monobenzoyl-L-tartrate 170487-37-3P, Monopotassium monobenzoyl-D-
 tartrate 170487-38-4P, Methyl 4-oxazolecarboxylate 170487-39-5P,
 2-Cyano-4-methylpyridine N-oxide 170487-40-8P, Methyl
 indazole-6-carboxylate
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation of 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA
 receptor antagonists)
 IT 161227-87-8P, 1,1-Bis(5-thiazolyl)ethene
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation of 6,11-ethano-6,11-dihydrobenzo[b]quinolizinium salts as NMDA
 receptor antagonists)
 RN 161227-87-8 HCAPLUS
 CN Thiazole, 5,5'-ethenylidenebis- (9CI) (CA INDEX NAME)



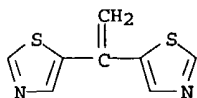
L52 ANSWER 8 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1995:283984 HCAPLUS
 DN 123:83185
 ED Entered STN: 10 Jan 1995
 TI Discovery of 6,11-Ethano-12,12-diaryl-6,11-dihydrobenzo[b]quinolizinium
 Cations, a Novel Class of N-Methyl-D-aspartate Antagonists
 AU Subramanyam, Chakrapani; Mallamo, John P.; Dority, John A., Jr.; Earley,
 William G.; Kumar, Virendra; Aimone, Lisa D.; Ault, Brian; Miller, Matthew
 S.; Luttinger, Daniel A.; DeHaven-Hudkins, Diane L.
 CS Department of Medicinal Chemistry, Sterling Winthrop Pharmaceuticals
 Research Division, Collegeville, PA, 19426-0900, USA
 SO Journal of Medicinal Chemistry (1995), 38(1), 21-7
 CODEN: JMCMAR; ISSN: 0022-2623

PB American Chemical Society
 DT Journal
 LA English
 CC 27-18 (Heterocyclic Compounds (One Hetero Atom))
 Section cross-reference(s): 1, 2
 GI



- AB 6,11-Ethano-12,12-diaryl-6,11-dihydrobenzo[b]quinolizinium cations, a novel class of N-methyl-D-aspartate (NMDA) antagonists acting at the phencyclidine site, have been identified. Structure-activity relationship studies around the lead compound I (R = Ph) led to the identification of I (R = 3-furyl) (WIN 67870-2), one of the most potent compds. in this series. I (R = 3-furyl) has a $K_i = 1.8 \pm 0.2$ nM vs [3H]TCP binding, has 700-fold selectivity for binding to the open state of the NMDA receptor-ionophore, and was devoid of MK-801- and PCP-like behavioral effects in rats. I (R = 3-furyl) was neuroprotective in cultured mouse cortical neurons and exhibited antiischemic activity in a rat middle cerebral artery occlusion/reperfusion model of focal ischemia.
- ST ethanobenzoquinolizinium diaryl prepn methylaspartate antagonist;
 diarylethanobenzoquinolizinium prepn methylaspartate antagonist
- IT Molecular structure-biological activity relationship
 (glutamatergic receptor-binding, preparation of
 ethanodiaryldihydrobenzoquinolizinium cations as novel methylaspartate antagonists)
- IT Receptors
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
 (glutamatergic, methyl-D-aspartate-binding, preparation of
 ethanodiaryldihydrobenzoquinolizinium cations as novel methylaspartate antagonists)
- IT 6384-92-5, Nmmda
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
 (preparation of ethanodiaryldihydrobenzoquinolizinium cations as novel methylaspartate antagonists)
- IT 161227-45-8P 161227-46-9P 161227-47-0P 161227-48-1P 161227-49-2P
 161227-51-6P 161227-53-8P 161227-54-9P 161227-68-5P 161227-69-6P
 161227-70-9P 161227-71-0P 161227-72-1P 161227-73-2P 161227-74-3P
 161227-76-5P 161227-78-7P 161227-80-1P 161227-81-2P 161227-82-3P
 161227-83-4P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
 (preparation of ethanodiaryldihydrobenzoquinolizinium cations as novel methylaspartate antagonists)
- IT 1488-34-2 2642-81-1 4356-69-8 6175-14-0 6919-62-6 10605-43-3
 10605-50-2 18507-95-4 29265-85-8 30782-41-3 54416-76-1
 55707-55-6 56643-95-9 87630-36-2 98946-66-8 105399-18-6
 133560-57-3 161227-84-5 161227-85-6 161227-86-7 161227-87-8
 161227-88-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of ethanodiaryldihydrobenzoquinolizinium cations as novel methylaspartate antagonists)
- IT 161227-55-0P 161227-56-1P 161227-57-2P 161227-59-4P 161227-60-7P
 161227-61-8P 161227-63-0P 161227-64-1P 161227-65-2P 161227-67-4P
 161227-90-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of ethanodiaryldihydrobenzoquinolizinium cations as novel methylaspartate antagonists)
- IT 161227-87-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of ethanodiaryldihydrobenzoquinolizinium cations as novel

methyiaspartate antagonists)
 RN 161227-87-8 HCAPLUS
 CN Thiazole, 5,5'-ethenylidenebis- (9CI) (CA INDEX NAME)



LS2 ANSWER 9 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1992:214333 HCAPLUS
 DN 116:214333
 ED Entered STN: 31 May 1992
 TI Preparation of (arylethynyl)heteroaromatics as acaricides and insecticides
 IN Rentzea, Costin; Kardorff, Uwe; Kuenast, Christoph; Theobald, Hans;
 Kuekenhoener, Thomas
 PA BASF A.-G., Germany
 SO Eur. Pat. Appl., 20 pp.
 CODEN: EPXXDW
 DT Patent
 LA German
 IC ICM C07D333-08
 ICS C07D333-12; C07D333-16; C07D333-28; C07D277-22; A01N043-10;
 A01N043-78

CC 27-8 (Heterocyclic Compounds (One Hetero Atom))
 Section cross-reference(s): 5

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 469411	A1	19920205	EP 1991-112154	19910720 <--
	EP 469411	B1	19970611		
	R: BE, CH, DE, DK, ES, FR, GB, IT, LI, NL				
	DE 4024281	A1	19920206	DE 1990-4024281	19900731 <--
	ES 2103759	T3	19971001	ES 1991-112154	19910720 <--
	JP 04234381	A2	19920824	JP 1991-187421	19910726 <--
	CA 2048159	AA	19920201	CA 1991-2048159	19910730 <--
	US 5389656	A	19950214	US 1992-911386	19920713 <--
PRAI	DE 1990-4024281		19900731 <--		
	US 1991-737866		19910730 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 469411	ICM	C07D333-08
	ICS	C07D333-12; C07D333-16; C07D333-28; C07D277-22; A01N043-10; A01N043-78

OS MARPAT 116:214333

AB R1C.tplbond.CR2 [R1 = (substituted) heteroaryl; R2 = (substituted) (polycyclic) aryl] were prepared Thus, 2-bromothiophene was condensed with PhC.tplbond.CH to give 1-(2-thienyl)-2-phenylacetylene.
 1-(3-Chloro-2-thienyl)-2-phenylacetylene gave 80-100% kill of Heliothis virescens larvae on bean leaves wetted with a 400-ppm preparation

ST heteroarom arylethynyl prepn acaricide insecticide

IT Acaricides

Insecticides

((arylethynyl)heteroaroms.)

IT 4805-17-8P 35070-01-0P 131423-29-5P 140918-60-1P
 140918-61-2P 140918-62-3P 140918-63-4P 140918-64-5P 140918-65-6P
 140918-66-7P 140918-67-8P

RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of, as acaricide and insecticide)

IT 536-74-3, Phenylacetylene 1003-09-4, 2-Bromothiophene

RL: RCT (Reactant); RACT (Reactant or reagent)

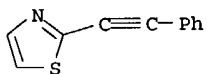
(reaction of, in preparation of acaricides and insecticides)

IT 35070-01-0P

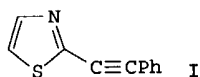
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of, as acaricide and insecticide)

RN 35070-01-0 HCAPLUS

CN Thiazole, 2-(phenylethynyl)- (9CI) (CA INDEX NAME)

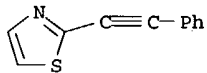


L52 ANSWER 10 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1987:636598 HCAPLUS
 DN 107:236598
 ED Entered STN: 25 Dec 1987
 TI Palladium-catalyzed reactions of terminal acetylenes and olefins with halo-1,3-azoles
 AU Sakamoto, Takao; Nagata, Hideo; Kondo, Yoshinori; Shiraiwa, Masafumi; Yamanaka, Hiroshi
 CS Pharm. Inst., Tohoku Univ., Sendai, 980, Japan
 SO Chemical & Pharmaceutical Bulletin (1987), 35(2), 823-8
 CODEN: CPBTAL; ISSN: 0009-2363
 DT Journal
 LA English
 CC 28-9 (Heterocyclic Compounds (More Than One Hetero Atom))
 OS CASREACT 107:236598
 GI

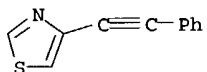


AB The Pd-catalyzed reactions of 4-bromo- and 5-bromothiazoles, as well as 4-bromo- and 5-bromooxazoles with terminal acetylenes gave ethynyl derivs., e.g. I, in 43-89% yields, whereas the reactions of 2-bromothiazoles and iodo-N-methylimidazoles afforded the products in poor yields. The reaction of the halo-1,3-azoles with terminal olefins was also examined
 ST thiazole alkynyl alkenyl; oxazole alkynyl alkenyl; imidazole alkynyl alkenyl; halothiazole alkynylation palladium catalyst; alkenylation haloazole palladium catalyst; heteroarom Heck arylation alkene alkyne
 IT Alkenylation
 Alkynylation
 (of halo-oxazoles and halothiazoles)
 IT Arylation
 (Heck, of acetylenes and olefins with halo-oxazoles and halothiazoles)
 IT 7007-07-0 20662-93-5 28771-82-6 34259-99-9 37067-95-1 57516-16-2
 71759-87-0 71759-88-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (alkynylation and alkenylation of, in the presence of a palladium catalyst)
 IT 3034-53-5 111600-83-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (alkynylation of, in the presence of a palladium catalyst)
 IT 140-88-5, Ethyl acrylate 1066-54-2, (Trimethylsilyl)acetylene
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (arylation of, with bromothiazoles and -oxazoles, palladium catalyzed)
 IT 536-74-3, Phenyl acetylene
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (arylation of, with halothiazoles and -oxazoles, palladium catalyzed)
 IT 1826-12-6P 1826-17-1P 4072-63-3P 35070-01-0P 37570-94-8P
 55384-94-6P 67879-31-6P 71759-92-7P 83247-14-7P 108905-60-8P
 111600-84-1P 111600-85-2P 111600-86-3P 111600-87-4P
 111600-88-5P 111600-89-6P 111600-90-9P 111600-91-0P
 111600-92-1P 111600-93-2P 111600-94-3P 111600-95-4P
 111600-96-5P 111600-97-6P 111600-98-7P 111600-99-8P 111601-00-4P
 111601-01-5P 111601-02-6P 111601-03-7P 111601-04-8P 111601-05-9P
 111601-06-0P 111601-07-1P 111601-08-2P 111601-09-3P 111601-10-6P
 111601-11-7P 111601-12-8P 111601-13-9P 111601-14-0P 111601-15-1P
 111601-16-2P 111601-17-3P 111620-41-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 IT 107-13-1, Acrylonitrile, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with bromothiazoles and -oxazoles, palladium catalyzed)
 IT 100-42-5, Styrene, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)

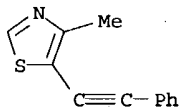
(reaction of, with halothiazoles and -oxazoles, palladium catalyzed)
 IT 35070-01-0P 111600-88-5P 111600-92-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 35070-01-0 HCAPLUS
 CN Thiazole, 2-(phenylethynyl)- (9CI) (CA INDEX NAME)



RN 111600-88-5 HCAPLUS
 CN Thiazole, 4-(phenylethynyl)- (9CI) (CA INDEX NAME)



RN 111600-92-1 HCAPLUS
 CN Thiazole, 4-methyl-5-(phenylethynyl)- (9CI) (CA INDEX NAME)



L52 ANSWER 11 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1982:117583 HCAPLUS
 DN 96:117583
 ED Entered STN: 12 May 1984
 TI Soil disinfectant composition
 PA Kanesho Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC A01N027-00; A01N029-00; A01N031-14; A01N043-06; A01N043-40; A01N043-78
 CC 5-2 (Agrochemical Bioregulators)

FAN.CNT 1

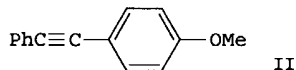
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 56154401	A2	19811130	JP 1980-58501	19800501 <--
	JP 59028522	B4	19840713		
PRAI	JP 1980-58501		19800501	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES		
JP 56154401	IC	A01N027-00IC	A01N029-00IC	A01N031-14IC
		A01N043-06IC	A01N043-40IC	A01N043-78

OS CASREACT 96:117583

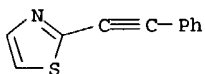
GI



II

AB The compds. R1C.tplbond.CR2 (I; R1 and R2 = alkenyl, alkynyl, or aromatic) are soil disinfectants. The synthesis of I is given. Thus, 200 ppm of II [7380-78-1] at 3 L/m3 soil controlled Pythium aphanidermatum on cucumber.
 ST soil disinfectant compn
 IT Bactericides, Disinfectants, and Antiseptics
 (preparation and activity of)
 IT Fungicides and Fungistats
 (soil disinfectant, preparation and activity of)
 IT 886-66-8P 1206-02-6P 1463-04-3P 3287-02-3P 3725-09-5P 4805-17-8P

5701-81-5P 7380-78-1P 13141-42-9P 13295-94-8P 13295-97-1P
 13456-84-3P 13633-26-6P 23975-15-7P 28790-65-0P 35070-01-0P
 35133-77-8P 49836-17-1P 49836-18-2P 50559-45-0P 55110-61-7P
 65406-81-7P 80221-12-1P 80221-14-3P 80221-15-4P 80221-19-8P
 80221-20-1P 80746-49-2P
 RL: AGR (Agricultural use); BAC (Biological activity or effector, except
 adverse); BSU (Biological study, unclassified); SPN (Synthetic
 preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation and microbicidal activity of)
 IT 109-89-7, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with bromochlorohexane, in soil disinfectant manufacture)
 IT 536-74-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with bromopropane, in soil disinfectant manufacture)
 IT 696-62-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with phenylacetylene copper, in soil disinfectant manufacture)
 IT 106-94-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with phenylacetylene, in soil disinfectant manufacture)
 IT 1003-09-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with piperidine, in soil disinfectant manufacture)
 IT 35070-01-0P
 RL: AGR (Agricultural use); BAC (Biological activity or effector, except
 adverse); BSU (Biological study, unclassified); SPN (Synthetic
 preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation and microbicidal activity of)
 RN 35070-01-0 HCAPLUS
 CN Thiazole, 2-(phenylethynyl)- (9CI) (CA INDEX NAME)



L52 ANSWER 12 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1982:16085 HCAPLUS

DN 96:16085

ED Entered STN: 12 May 1984

TI Acetylene derivatives as nematocides

PA Kanesho Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC A01N027-00; A01N031-04; A01N031-08; A01N033-06; A01N033-18; A01N035-04;

A01N037-18; A01N037-34; A01N043-06; A01N043-40; A01N043-78

CC 5-4 (Agrochemical Bioregulators)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 56123903	A2	19810929	JP 1980-27155	19800304 <--
	JP 59028521	B4	19840713		
PRAI	JP 1980-27155		19800304	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES			
JP 56123903	IC	A01N027-00IC	A01N031-04IC	A01N031-08IC	
		A01N033-06IC	A01N033-18IC	A01N035-04IC	
		A01N037-18IC	A01N037-34IC	A01N043-06IC	
		A01N043-40IC	A01N043-78		
AB	Acetylene derivs. are nematocides. The syntheses of such compds. are given. Thus, 500 .mu.M MeO2CCH:CH.cntdot.C.tplbond.C.cntdot.CH:CHCO2Me [28813-55-0] controlled Pratylenchus coffeae by 99.2% in 48 h.				
ST	acetylene nematocide				
IT	Nematocides (acetylenes)				
IT	886-66-8	959-88-6	1206-02-6	1223-47-8	1463-04-3 1820-42-4
	1849-25-8	1849-26-9	1849-27-0	1942-30-9	2735-14-0 2789-88-0
	2789-89-1	3287-02-3	3725-09-5	4805-17-8	5216-36-4 5293-78-7
	5701-81-5	6775-17-3	7380-78-1	13141-38-3	13141-40-7 13141-41-8
	13141-42-9	13141-44-1	13141-45-2	13295-94-8	13295-97-1

13456-84-3 13633-26-6 22666-07-5 23975-15-7 25407-11-8
 25739-23-5 28790-65-0 28813-55-0 29768-12-5 30405-77-7
 35010-17-4 35070-01-0 35133-77-8 41398-67-8 42296-34-4
 49836-17-1 49836-18-2 49836-19-3 49836-21-7 50559-45-0
 51118-06-0 54075-56-8 55110-61-7 55384-98-0 57341-98-7
 59647-77-7 59672-51-4 61440-87-7 65406-81-7 74149-28-3
 79135-69-6 80220-64-0 80220-65-1 80220-66-2 80221-08-5
 80221-09-6 80221-10-9 80221-11-0 80221-12-1 80221-13-2
 80221-14-3 80221-15-4 80221-16-5 80221-17-6 80221-18-7
 80221-19-8 80221-20-1 80221-21-2 80221-22-3 80221-23-4
 80221-24-5 80238-88-6

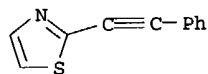
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)

(nematocide)
 IT 74-86-2D, derivs.
 RL: BIOL (Biological study)
 (nematocides)

IT 35070-01-0
 RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
 (nematocide)

RN 35070-01-0 HCAPLUS

CN Thiazole, 2-(phenylethynyl)- (9CI) (CA INDEX NAME)



L52 ANSWER 13 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1977:480883 HCAPLUS

DN 87:80883

ED Entered STN: 12 May 1984

TI Test strips for the detection of occult blood in excreta and body fluids

IN Ogawa, Yasunao; Yonetani, Yukio

PA Shionogi and Co., Ltd., Japan

SO Ger. Offen., 24 pp.

CODEN: GWXXBX

DT Patent

LA German

IC G01N033-16

CC 9-6 (Biochemical Methods)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2652545	A1	19770526	DE 1976-2652545	19761118 <--
	JP 52063794	A2	19770526	JP 1975-140428	19751121 <--
	CA 1067803	A1	19791211	CA 1976-263096	19761012 <--
	AU 7618752	A1	19780420	AU 1976-18752	19761015 <--
	GB 1547846	A	19790627	GB 1976-44039	19761022 <--
	SE 7612506	A	19770522	SE 1976-12506	19761110 <--
	DK 7605205	A	19770522	DK 1976-5205	19761118 <--
	FR 2332534	A1	19770617	FR 1976-34771	19761118 <--
	FR 2332534	B1	19810522		
	ES 453442	A1	19771116	ES 1976-453442	19761118 <--
	BE 848564	A1	19770316	BE 1976-172544	19761119 <--
	NO 7603980	A	19770524	NO 1976-3980	19761119 <--
	NL 7612999	A	19770524	NL 1976-12999	19761122 <--
	NL 168050	B	19810916		
	NL 168050	C	19820216		
	CH 623137	A	19810515	CH 1976-14659	19761122 <--
PRAI	JP 1975-140428		19751121	<--	

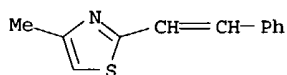
CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE 2652545	IC	G01N033-16

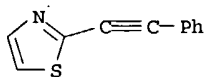
AB The test strips for occult blood detection consist of adsorbent materials impregnated with a chromogenic substance, H2O2, and a thiazole as a sensitizing agent. Thus, a filter paper (Toyo Filter paper number 131) was impregnated with an emulsion containing gum arabic 10, Na lauryl sulfate 2, cumyl peroxide 1, gelatin in citrate buffer (pH 5) 5, tartrazine in aqueous EtOH 0.5, and 2M citric acid in N-ethylmorpholine (pH 5.5) 20 mL; the paper

was removed from the emulsion and dried for 5-10 h at 60-80.degree., and then impregnated with a 2nd solution containing o-tolidine 50, 2-styryl-4-methylthiazole 50 mg, and CHCl₃ 10 mL. The paper was removed from the solution and dried in the dark for 30 min under reduced pressure. The paper cuts were then glued to a poly(vinyl chloride) film. The test strip could detect blood concns. in 1:1,000,000 dilution; the original yellow color of the strip turned into green.

ST blood occult detection test strip
 IT Blood analysis
 (detection of occult; test strips for)
 IT 77-92-9, uses and miscellaneous 80-43-3 100-74-3 119-93-7
 151-21-3, uses and miscellaneous 1934-21-0 9000-01-5 14397-06-9
 24622-44-4 63768-25-2
 RL: ANST (Analytical study)
 (in test strip preparation for occult blood detection)
 IT 24622-44-4
 RL: ANST (Analytical study)
 (in test strip preparation for occult blood detection)
 RN 24622-44-4 HCAPLUS
 CN Thiazole, 4-methyl-2-(2-phenylethenyl)- (9CI) (CA INDEX NAME)



L52 ANSWER 14 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1972:59397 HCAPLUS
 DN 76:59397
 ED Entered STN: 12 May 1984
 TI Photochemical syntheses. V. Photoaddition of heterocyclic diarylacetylenes to naphthalene and 1-methylnaphthalene
 AU Teitei, T.; Collin, P. J.; Sasse, W. H. F.
 CS Div. Appl. Chem., CSIRO, North Ryde, Australia
 SO Australian Journal of Chemistry (1972), 25(1), 171-82
 CODEN: AJCHAS; ISSN: 0004-9425
 DT Journal
 LA English
 CC 27 (Heterocyclic Compounds (One Hetero Atom))
 Section cross-reference(s): 24, 26
 GI For diagram(s), see printed CA Issue.
 AB Eight heterocyclic diarylacetylenes derived from pyridine, furan, thiophene, and thiazole were irradiated in the presence of naphthalene. Phenyl(4-pyridyl)-acetylene gave I and II, phenyl(3-pyridyl)acetylene gave III and IV, and phenyl(2-pyridyl)acetylene gave V and VI. From 1-methylnaphthalene and phenyl(3-pyridyl)acetylene the adducts VII and VIII were isolated and 2 adducts which formed by addition to the unsubstituted ring were detected. From phenyl(2-thiazolyl)acetylene and naphthalene probably only one isomeric adduct IX was isolated. The methiodides of all the new adducts except IX were prepared. The structures proposed for these photo-adducts were based on their PMR, mass, and uv absorption spectra. Factors influencing the isomer distribution and overall yields were discussed.
 ST photochem aryl acetylene naphthalene
 IT Cycloaddition reaction
 (photochem. of diarylacetylenes to naphthalene and methylnaphthalene)
 IT 90-12-0 91-20-3, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (photoaddn. reactions with diarylacetylenes)
 IT 35070-01-0P 35133-61-0P 35133-62-1P 35133-63-2P
 35133-64-3P 35133-65-4P 35133-66-5P 35133-67-6P 35133-68-7P
 35133-69-8P 35133-70-1P 35133-72-3P 35133-73-4P 35133-74-5P
 35133-75-6P 35133-76-7P 35133-77-8P 35182-92-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 IT 35070-01-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 35070-01-0 HCAPLUS
 CN Thiazole, 2-(phenylethynyl)- (9CI) (CA INDEX NAME)

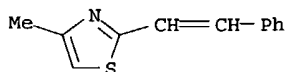


L52 ANSWER 15 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1970:477068 HCAPLUS
 DN 73:77068
 ED Entered STN: 12 May 1984
 TI Olefins from aldehydes and methyl group-containing heterocyclic nitrogen compounds
 IN Pommer, Horst; Sarnecki, Wilhelm
 PA Badische Anilin- & Soda-Fabrik AG
 SO Ger. Offen., 10 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 IC C07D; D06L
 CC 27 (Heterocyclic Compounds (One Hetero Atom))
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1903191	A	19700806	DE 1969-1903191	19690123 <--
PRAI DE 1969-1903191		19690123 <--		

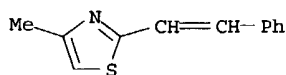
CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE 1903191	IC	C07DIC D06L
GI		For diagram(s), see printed CA Issue.
AB		Olefins were prepared by reaction of aromatic or heteroaromatic aldehydes with N heterocyclic compds. containing a Me group in .alpha.- or .beta.-position at 150-280.degree. under pressure. Thus, heating 8.1 parts 2,5-dichloroterephthalaldehyde and 140 part .alpha.-picoline 6 hr at 200.degree. in a pressure vessel yielded 6.9 parts I. Similarly prepared were 1-[2-(2-quinolyl)vinyl]-3,4-(methylenedioxy)benzene, 2-[2-(2-furyl)vinyl]pyridine, 1,4-bis[2-(2-benzimidazolyl)vinyl]benzene, .beta.-(4-methyl-2-thiazolyl)styrene, 1-(3-pyridyl)-2-(2-pyridyl)ethylene, 1-(1-naphthyl)-2-(2-pyridyl)ethylene, and II (R and R1 given): H, CHO; H, NMe2; NO2, H; Me, H; H, Br.
ST		olefins prepn; stilbazoles prepn; pyridylethylenes prepn; ethylenes pyridyl; styrenes prepn; bisvinyl benzenes; vinylpyridines benzenes
IT		Olefins, preparation RL: PREP (Preparation) (from aldehydes and methyl group-containing heterocyclic nitrogen compds.)
IT		Aldehydes, reactions RL: RCT (Reactant); RACT (Reactant or reagent) (with nitrogen methyl group-containing heterocyclic compds., olefins by)
IT		Nitrogen, heterocyclic RL: RCT (Reactant); RACT (Reactant or reagent) (reaction of methyl group-containing, with aldehydes)
IT		726-37-4P 5045-43-2P 5425-74-1P 17755-52-1P 19053-95-3P 24622-44-4P 27242-35-9P 27951-91-3P 27951-92-4P 27951-96-8P 27951-99-1P 27952-00-7P 27952-03-0P RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
IT		24622-44-4P RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
RN		24622-44-4 HCAPLUS
CN		Thiazole, 4-methyl-2-(2-phenylethenyl)- (9CI) (CA INDEX NAME)



L52 ANSWER 16 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1970:31674 HCAPLUS
 DN 72:31674
 ED Entered STN: 12 May 1984
 TI Hydroxyalkylation of 2,4-dimethyl-1,3-thiazole with aldehydes or ketones in liquid ammonia

AU Ivanov, Chavdar; Dryanska, V.; Arnaudova, I.
 CS Univ. Sofia, Sofia, Bulg.
 SO Doklady Bolgarskoi Akademii Nauk (1969), 22(8), 891-4
 CODEN: DBANAD; ISSN: 0366-8681
 DT Journal
 LA English
 CC 28 (Heterocyclic Compounds (More Than One Hetero Atom))
 GI For diagram(s), see printed CA Issue.
 AB A solution of 3.4 g 2,4-dimethyl-1,3-thiazole in 10 ml ether was treated with LiNH₂ (from 0.46 g Li in 250 ml liquid NH₃) suspension followed by 0.03 mole appropriate carbonyl compound in 20 ml ether to give, after usual work up, the following I (R, R₁, % yield and m.p. given): Ph, H, 35, 97-8.degree.; p-ClC₆H₄, H, 27, 122-3.degree.; Pr, Pr, 79, (b5 133-4.degree.); Ph, Ph, 72, 151-2.degree.; p-ClC₆H₄, Ph, 55, 119-20.degree.; Ph, Me, 51, 71.5-3.degree.; (RR₁ =) (CH₂)₄, 64, (b3 114-16.degree.); (RR₁ =) (CH₂)₅, 60, (b8 142-4.degree.). I (0.008 mole) in 2 ml concentrated H₂SO₄ and 40 ml AcOH was boiled 2 hr to give the following II (same data given): Ph, H, 35, 97-8.degree.; p-ClC₆H₄, H, 27, 122-3.degree.; Pr, Pr, 79, (b5 133-4.degree.); Ph, Ph, 72, 151-2.degree.; p-ClC₆H₄, Ph, 55, 119-20.degree.; Ph, Me, 51, 71.5-3.degree.; (RR₁ =) (CH₂)₄, 64, (b3 114-16.degree.); (RR₁ =) (CH₂)₅, 60, (b8 142-4.degree.).
 ST hydroxyalkylation thiazoles liq ammonia; thiazoles hydroxyalkylation liq ammonia
 IT Aldehydes, reactions
 Ketones, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (hydroxyalkylation by, of dimethylthiazole in liquid ammonia)
 IT Hydroxyalkylation
 (of dimethylthiazole with carbonyl compds. in liquid ammonia)
 IT 7664-41-7, Ammonia, uses and miscellaneous
 RL: USES (Uses)
 (hydroxyalkylation of dimethylthiazole in, by carbonyl compds.)
 IT 541-58-2
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (hydroxyalkylation of, by carbonyl compds. in liquid ammonia)
 IT 14397-04-7P 24622-38-6P 24622-39-7P 24622-40-0P 24622-41-1P
 24622-42-2P 24622-43-3P 24622-44-4P 24622-46-6P
 24622-47-7P 24622-48-8P 24622-49-9P 24622-50-2P 24644-36-8P
 24646-57-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 IT 24622-44-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 24622-44-4 HCAPLUS
 CN Thiazole, 4-methyl-2-(2-phenylethenyl)- (9CI) (CA INDEX NAME)



LS2 ANSWER 17 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1952:48591 HCAPLUS

DN 46:48591

OREF 46:8093c-e

ED Entered STN: 22 Apr 2001

TI Syntheses of 2-styrylmethylthiazoles

AU Matsuo, Tsuneo

CS Kobe Women's Coll. Pharm.

SO Yakugaku Zasshi (1951), 71, 684-5

CODEN: YKKZAJ; ISSN: 0031-6903

DT Journal

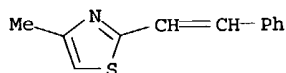
LA Unavailable

CC 10 (Organic Chemistry)

GI For diagram(s), see printed CA Issue.

AB By condensation of 2,4-dimethylthiazole and aldehydes in the presence of ZnCl₂, 2-(substituted-vinyl)-4-methylthiazoles (I), S.C(CH:CHR):N.CMe:CH were prepared. The yield of I at 110-30.degree. was poor; at 150-70.degree. the amount of I as HCl salt was about the same as that of the aldehyde used. I.H₂O had an indefinite m.p. and decomposed on heating. The products prepared are: R = Ph, as HCl salt, m. 85.degree.; o-HOC₆H₄, m. 200.degree.; p-HOC₆H₄, m. 201.degree.; o-MeOC₆H₄, as picrate, m. 167.5-8.degree.;

p-MeOC₆H₄, m. 50.degree.; 3,4-(HO)2C₆H₃, as HCl salt, decompose 254.degree.;
 3,4-MeO(HO)C₆H₃, m. 109-10.degree.; 3,4-(MeO)2C₆H₃, m. 102.degree.;
 3,4-CH₂O2C₆H₃, m. 100.degree.; p-PhOC₆H₄, as HCl salt, m. 161.degree.;
 p-BrC₆H₄, m. 100.degree.; m-O₂NC₆H₄, m. 104.degree.; p-O₂NC₆H₄, m.
 129.degree.; p-Me₂NC₆H₄, m. 100.degree.; PhCH:CH, m. 55.degree.; 2-furyl,
 as HCl salt, m. 88.degree.. 1-(4-Methyl-2-thiazolyl)-2-hydroxy-3,3,3-
 trichloropropane m. 124-5.degree..
 IT Guaiacol, 4-[2-(4-methyl-2-thiazolyl)vinyl]-
 Phenol, o-[2-(4-methyl-2-thiazolyl)vinyl]-
 Phenol, p-[2-(4-methyl-2-thiazolyl)vinyl]-
 Pyrocatechol, 4-[2-(4-methyl-2-thiazolyl)vinyl]-, hydrochloride
 Thiazole, 2-(3,4-dihydroxystyryl)-4-methyl-, hydrochloride
 Thiazole, 2-(3,4-dimethoxystyryl)-4-methyl-
 Thiazole, 2-(4-hydroxy-3-methoxystyryl)-4-methyl-
 Thiazole, 2-(p-bromostyryl)-4-methyl-
 Thiazole, 2-[2-(2-furyl)vinyl]-4-methyl-, hydrochloride
 Thiazole, 2-[o-hydroxystyryl]-4-methyl-
 Thiazole, 2-[o-methoxystyryl]-4-methyl-
 Thiazole, 2-[o-methoxystyryl]-4-methyl-, picrate
 Thiazole, 2-[p-hydroxystyryl]-4-methyl-
 Thiazole, 2-[p-methoxystyryl]-4-methyl-, picrate
 Thiazole, 4-methyl-2-(3,4-methylenedioxystyryl)-
 Thiazole, 4-methyl-2-(4-phenyl-1,3-butadienyl)-
 Thiazole, 4-methyl-2-(p-phenoxytyryl)-, hydrochloride
 Thiazole, 4-methyl-2-[m-nitrostyryl]-
 IT 24622-44-4, Thiazole, 4-methyl-2-styryl-
 (derivs.)
 IT 14397-06-9, Thiazole, 2-[p-methoxystyryl]-4-methyl- 18298-61-8,
 Thiazole, 4-methyl-2-[p-nitrostyryl]- 29238-74-2, Thiazole,
 2-(p-dimethylaminostyryl)-4-methyl- 89792-90-5, 2-Thiazoleethanol,
 4-methyl-.alpha.-(trichloromethyl)-
 (preparation of)
 IT 24622-44-4, Thiazole, 4-methyl-2-styryl-
 (derivs.)
 RN 24622-44-4 HCAPLUS
 CN Thiazole, 4-methyl-2-(2-phenylethenyl)- (9CI) (CA INDEX NAME)

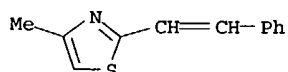


L52 ANSWER 18 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1948:34243 HCAPLUS
 DN 42:34243
 OREF 42:7291c-i,7292a-h
 ED Entered STN: 22 Apr 2001
 TI Condensability of the 2-methyl group in thiazole compounds
 AU Erlennmeyer, H.; Weber, O.; Schmidt, P.; Kung, G.; Zinsstag, Chr.; Prijs,
 B.
 CS Univ. Basel, Switz.
 SO Helvetica Chimica Acta (1948), 31, 1142-58
 CODEN: HCACAV; ISSN: 0018-019X
 DT Journal
 LA German
 CC 10 (Organic Chemistry)
 OS CASREACT 42:34243
 AB The condensability of 2-methylthiazoles with BzH (C.A. 17, 1023) and of
 2,4-dimethylthiazole with BzH (C.A. 32, 1699.4) has been demonstrated but
 it seemed of interest to prove the structure of the 2-styrylthiazoles thus
 formed by direct synthesis from PhCH:CHCSNH₂ (I) and halo carboxyl compds.
 P2S5 (7 g.) and 20 g. PhCH:CHCONH₂ were finely powdered and boiled up in 100
 cc. dioxane, diluted, extracted with ether, and the semisolid residue of the
 evaporation taken up in 50 cc. boiling benzene; on cooling, the filtrate
 yielded 6 g. I, C₉H₉NS, m. 143.5.degree. (after 6-fold recrystn. from
 benzene). I (300 mg.) and 300 mg. BrCH₂COPh refluxed in 25 cc. alc. 2 h.
 gave colorless Br-free needles of 4-phenyl-2-styrylthiazole, m.
 131.0-1.5.degree., identical with the preparation of Mills, et al.; picrate, m.
 155-6.degree.. Analogous products were made by condensation of 1.15 g.
 desyl chloride (II) with 0.9 g. PhNHCSNH₂ to give 1.5 g. of
 2-anilino-4,5-diphenylthiazole, C₂₁H₁₆N₂S, m. 151-2.degree. (picrate, m.
 183-5.degree.), and of 2.3 g. II with 0.9 g. dithioadipamide to yield 1.9
 g. of faintly brown crystals of 1,4-bis(4,5-diphenyl-2-thiazolyl)butane,
 C₃₄H₂₈N₂S₂, m. 116-17.degree.; dipicrate, m. 184-6.degree.. By heating

together at 125.degree., 2.3 g. II and 1.6 g. I yielded 4,5-diphenyl-2-styrylthiazole, C₂₃H₁₇NS, m. 130.0-0.5.degree., identical with the product from BzH and 2-methyl-4,5-diphenylthiazole [Ann. 259, 228(1890)], also formed by condensation of II with MeCSNH₂; picrate, m. 155.degree.. Similarly the condensation of 2,4-dimethyl-5-phenylthiazole with BzH to 4-methyl-5-phenyl-2-styrylthiazole, C₁₈H₁₅NS, m. 139-40.degree. (picrate, m. 187-9.degree.), and of 2,4-dimethylthiazole with BzH to 5-methyl-2-styrylthiazole, C₁₂H₁₁NS, m. 96-7.degree. (picrate, m. 195-7.degree.), was established by the synthesis of identical products from I with PhCHBrCOME and MeCHBrCHO. Refluxing 2 g. I with 2 g. ClCH₂COME 30 min. at 120.degree. and recrystg. the product from petr. ether gave 1.2 g. (50%) white needles of 4-methyl-2-styrylthiazole, m. 70.degree., identical with the Kondo and Nagasawa condensation product from 2,4-dimethylthiazole and BzH. To show that the condensability of the 2-Me group is not limited by substitution in the 4- or 5-positions a preparation of 2-styrylthiazole (III) from 2-methylthiazole and BzH was compared with the compound synthesized directly from I and ClCH₂CHO. Refluxing 3 g. 2-methylthiazole and 4 g. BzH 6 h. at 180.degree. in the presence of 0.3 g. anhydrous ZnCl₂ and recrystg. the crude product from 50 cc. warm petr. ether gave 2 g. (36%) white needles of III, C₁₁H₉NS, m. 59.degree.; picrate, m. 198-9.degree.. I refluxed with ClCH₂CHO gave 44% III, identical with the previous product. Activated CH₂ groups react with BrCH₂COPh (IV). Treatment of 2.5 g. of 1,4-bis(4-methyl-2-thiazolyl)butane, m. 12.degree., with 3.1 g. IV 2 h. at 100.degree. and recrystn. of the product from absolute alc. and from AcOEt gave 6 g. (92%) 1,8-dibromo-2,7-dihydroxy-2,7-diphenyl-3,6-bis(4-methyl-2-thiazolyl)octane (V), C₂₈H₃₀Br₂N₂O₂S₂, m. 180.degree. (decomposition). V (1 g.) and 2 g. Na₂CO₃ in 200 cc. H₂O heated 1 h. split out H₂O and HBr and yielded 0.1 g. (14%) of the sym. bis(3-methyl-6-phenylpyrrolo[2,1-b]thiazol-7-yl)ethane, C₂₈H₂₄N₂S₂, m. 185.degree.. Similarly, the active CH₂ group made possible the condensation of BzH with bis(4-phenyl-2-thiazolyl)methane to the corresponding 1-phenyl-2,2-bis(4-phenyl-2-thiazolyl)ethylene, C₂₆H₁₈N₂S₂, m. 127.degree., ozonized in CHCl₃ and decomposed with H₂O to give BzH and 0.3 g. (73%) bis(4-phenyl-2-thiazolyl) ketone, C₁₉H₁₂N₂O₂S₂, m. 194-5.degree.; phenylhydrazone, m. 244-5.degree.. Similarly, 2-acetylthiazole (VI) was synthesized from 2-ethylthiazole (VII). Crude EtCONH₂ (18 g. from 40 g. EtCOCl) and 12 g. powdered P₂S₅ were refluxed for 15 min. in 90 cc. dioxane; extraction and recrystn. from petr. ether gave 7 g. (32%) of yellow-brown leaflets of EtCSNH₂, m. 37-42.degree., converted by boiling with 10 g. freshly depolymd. BrCH₂CHO 4 h. in 50 cc. alc. containing several drops of piperidine, extraction with ether, and fractional distillation, to 2.3 g. (26%) colorless VII, C₅H₇NS, b₇₀ 73-6.degree.; picrate, 125.5-6.0.degree.. VII (1.5 g.) and 5.6 BzH refluxed 6 h. at 180.degree. with freshly fused ZnCl₂ gave 2.6 g. crude 2-(.alpha.-methylstyryl)thiazole (picrate, m. 120.0-0.5.degree.), ozonized in CHCl₃ to yield 0.4 g. (63%) oily VI, C₅H₅NOS, b₁₅ 95-105.degree. (oxime, m. 155-7.degree., identical with the compound prepared from 2-(1-hydroxyethyl)thiazole (VIII) with Na₂Cr₂O₇ in AcOH. BrCH₂CHO (10 g.) and 1.7-2 g. BzOCHMeCSNH₂ refluxed in 60 cc. absolute alc. containing 1 drop piperidine 15 h. gave 16 g. (84%) oily 2-(1-benzoyloxyethyl)thiazole, b₁₉ 140-85.degree. (picrate, m. 114.5-15.0.degree.), saponified by gently warming with 10 g. KOH in 110 cc. MeOH 1 h. to yield 6.5 g. (86%) VIII, C₅H₇NOS, b₁₂ 110-20.degree.. Bromination of 1 g. VI in 10 cc. boiling anhydrous CCl₄ with 1.2 g. Br and further addition of 5 cc. CCl₄ with vigorous stirring gave a yellow crystalline HBr salt, m. 172-4.degree. (decomposition), hydrolyzed with H₂O at room temperature to 1.5 g. (92%) of the free base, 2-bromoacetylthiazole (IX), C₅H₄BrNOS. IX with HCSNH₂ and with H₂NCSNH₂ produced 2,4'-bithiazole, m. 117.5-18.degree. (dipicrate, m. 173-4.degree.), and the corresponding 2-amino-4,2'-bithiazole, m. 186-7.degree.. Finally, the behavior of 2-methylthiazole (X) with compds. containing an aliphatic aldehyde group was examined since previous investigations (Ber. 27, 1009(1894); C.A. 37, 4733.4) were inconclusive. Autoclaving 10 g. X with 13 g. PhCH:CHCHO with 1 g. anhydrous ZnCl₂ 24 h. at 150.degree. and fractionation of the crude product yielded 1.5 g. of fluorescent rodlets of 1-phenyl-4-thiazolyl-1,3-butadiene (XI), C₁₃H₁₁NS, m. 89-90.degree.; picrate, m. 203-4.degree.. XI (12 mg.) in alc. in the presence of Raney Ni used up 3.5 cc. H (calculated for 2 double bonds, 2.75 cc.). X (10 g.) and 14.5 g. CCl₃CH(OH)₂ were kept in a closed flask 4 days at 40.degree. and then warmed at 70.degree. 36 h; working up and repeated recrystn. from MeOH gave 5 g. colorless crystals of 2-(2-hydroxy-3,3,3-trichloropropyl)thiazole, C₆H₆Cl₃NOS, m. 124-6.degree. (picrate, m. 121-3.degree.), saponified by heating with KOH in MeOH to 2-thiazoleacrylic acid (XII), C₆H₅NO₂S, m. 182-3.degree.; Me ester, C₇H₇NO₂S, m. 77-8.degree.. Reduction of 200 mg. XII in 5 cc. alc. in the presence of Raney Ni at 20.degree. and 740 mm. 1.5 h. with 37.5 cc. H and recrystn. of the reduction product from benzene gave short colorless rods of 2-thiazolepropionic acid, C₆H₇NO₂S, m. 126-7.degree., stable to heating

to 260.degree., whereas the lower homologs, 2-thiazolecarboxylic and 2-thiazoleacetic acid, are decarboxylated at about 100.degree. to the corresponding thiazole and 2-methylthiazole.

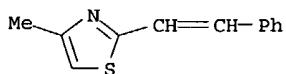
- IT Methyl group
(condensability of, in 2-position of thiazole derivs.)
- IT 2,4'-Bithiazole, dipicrate
2,7-Octanediol, 1,8-dibromo-3,6-bis(4-methyl-4-thiazolin-2-ylidene)-2,7-diphenyl-
2-Thiazoleacrylic acid, methyl ester
2-Thiazoleethanol, .alpha.-(trichloromethyl)-, picrate
2-Thiazolepropionic acid
3-Pyrazolin-5-one, 4-methyl-2,3-diphenyl-
Ethylene, 2-phenyl-1,1-bis(4-phenyl-2-thiazolyl)-
Hydrazine, 1,2-dicinnamoyl-1-phenyl-
Hydrocinnamic acid, .alpha.,.beta.-dibromo-, 2-phenylhydrazide
Ketone, bis(4-phenyl-2-thiazolyl)
Ketone, bis(4-phenyl-2-thiazolyl), phenylhydrazone
Ketone, bromomethyl 2-thiazolyl, hydrobromide
Pyrrolo[2,1-b]thiazole, 7,7'-ethylenebis[3-methyl-6-phenyl-
Thiazole, 2,2'-styrylidenebis[4-phenyl-
Thiazole, 2,2'-tetramethylenebis[4,5-diphenyl-, dipicrate
Thiazole, 2,2'-tetramethylenebis[4-methyl-
Thiazole, 2,2'-tetramethylenebis[4-methyl-, dipicrate
Thiazole, 2-(4-phenyl-1,3-butadienyl)-
Thiazole, 2-(4-phenyl-1,3-butadienyl)-, picrate
Thiazole, 2-(.alpha.-methylstyryl)-
Thiazole, 2-(.alpha.-methylstyryl)-, picrate
Thiazole, 2-anilino-4,5-diphenyl-
Thiazole, 2-anilino-4,5-diphenyl-, picrate
Thiazole, 2-styryl-
Thiazole, 2-styryl-, picrate
Thiazole, 4,5-diphenyl-2-styryl-
Thiazole, 4,5-diphenyl-2-styryl-, picrate
Thiazole, 4-methyl-5-phenyl-2-styryl-
Thiazole, 4-methyl-5-phenyl-2-styryl-, picrate
Thiazole, 4-phenyl-2-styryl-, picrate
Thiazole, 5-methyl-2-styryl-
Thiazole, 5-methyl-2-styryl-, picrate
- IT Cinnamic acid, .alpha.-methyl-, 2-phenylhydrazide
(and ring closure)
- IT 3581-87-1, Thiazole, 2-methyl- 40982-30-7, 2-Thiazolemethanol,
.alpha.-methyl-
(and derivs.)
- IT 288-47-1, Thiazole
(derivs.)
- IT 631-58-3, Propionamide, thio- 2118-51-6, Thiazole, 2,2'-
tetramethylenebis[4,5-diphenyl- 3292-77-1, Ketone, bromomethyl
2-thiazolyl 7113-10-2, 4-Thiazolecarboxylic acid, 2-phenyl- 7520-81-2,
2,4'-Bithiazole, 2'-amino- 14399-84-9, Cinnamamide, thio- 15679-09-1,
Thiazole, 2-ethyl- 24295-03-2, Ketone, methyl 2-thiazolyl
24622-44-4, Thiazole, 4-methyl-2-styryl- 52396-76-6,
2-Thiazoleethanol, .alpha.-(trichloromethyl)- 52396-77-7,
2-Thiazoleacrylic acid 82326-33-8, 2,4'-Bithiazole 93325-82-7,
Thiazole, 4-phenyl-2-styryl- 98025-45-7, Ketone, methyl 2-thiazolyl,
oxime 99845-68-8, Thiazole, 2-ethyl-, picrate
(preparation of)
- IT 75-87-6, Chloral
(reaction of, with 2-methylthiazole)
- IT 24622-44-4, Thiazole, 4-methyl-2-styryl-
(preparation of)
- RN 24622-44-4 HCAPLUS
- CN Thiazole, 4-methyl-2-(2-phenylethenyl)- (9CI) (CA INDEX NAME)



L52 ANSWER 19 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1938:11792 HCAPLUS
DN 32:11792
OREF 32:1699d-e
ED Entered STN: 16 Dec 2001
TI Activity of methyl side chains in the thiazole ring

Searched by Noble Jarrell

AU Kondo, Heisaburo; Nagasawa, Fujio
 SO Yakugaku Zasshi (1937), 57, 909-19(in German 249-52)
 CODEN: YKKZAJ; ISSN: 0031-6903
 DT Journal
 LA Unavailable
 CC 10 (Organic Chemistry)
 AB Condensation of 2,4-dimethylthiazole b80 78-81 (picrate m. 138.degree.),
 and BzH gave methylstyrylthiazole (I), m. 69.5.degree., picrate, m.
 181.degree.. I and O3 gave BzH, and methylthiazole aldehyde (III),
 isolated as the p-nitrophenylhydrazones. Oxidation of III gave
 4-methylthiazole-2-carboxylic acid, m. 99.degree., which on
 decarboxylation gave 4-methylthiazole; picrate, m. 180-2.degree.; Pt salt,
 m. 204.degree.; Hg salt, m. 119.degree..
 IT Reactivity
 (of methyl group, in thiazole derivs.)
 IT 693-95-8, Thiazole, 4-methyl-
 (and salts)
 IT 288-47-1, Thiazole
 (derivs., reactivity of Me groups in)
 IT 14542-16-6, 2-Thiazolecarboxylic acid, 4-methyl- 24622-44-4,
 Thiazole, 4-methyl-2-styryl-
 (preparation of)
 IT 100-52-7, Benzaldehyde
 (reaction with 2,4-dimethylthiazole)
 IT 541-58-2, Thiazole, 2,4-dimethyl-
 (reaction with BzH)
 IT 24622-44-4, Thiazole, 4-methyl-2-styryl-
 (preparation of)
 RN 24622-44-4 HCAPLUS
 CN Thiazole, 4-methyl-2-(2-phenylethenyl)- (9CI) (CA INDEX NAME)



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